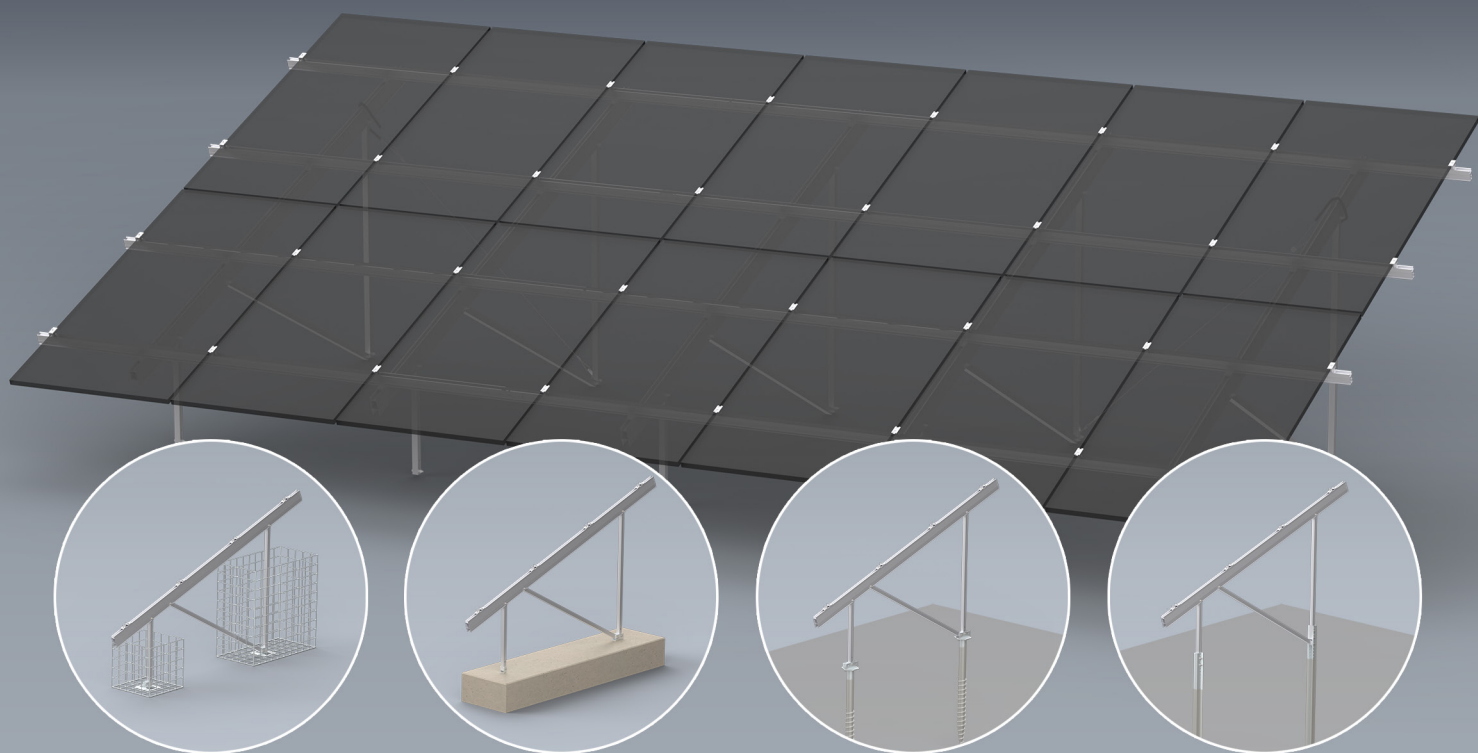




**Connecting Strength**



Montageanleitung

# **N-Rack Kit**

**Gabionen, Beton-, Schraub-  
und Rammfundamente**

# Inhalt

## Hauptwerkzeuge

## Allgemeine Sicherheitshinweise

### Generell gilt

- Wichtige Montagehinweise
- Statische Hinweise

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- N-Rack Top Kits
- N-Rack Ground Kits
  - Gabionen
  - Betonfundamente
  - Schraubfundamente
  - Rammfundamente

### Artikelaufstellungen

- N-Rack Top Kits
  - Small parts
- N-Rack Ground Kits
  - Gabion
  - Concrete
  - Groundscrew
  - Pile

### Vormontage Modulstützen

- Komponenten aus N-Rack Top Kit und N-Rack Ground Kit
- Stützen

### Gabionen

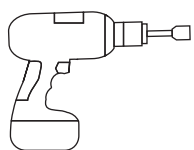
- Generelle Vorgaben
- Zusätzliche Werkzeuge
- Komponenten
- Montage
  - Gabionen vorbereiten
  - Abstände
  - Gabionen setzen
  - Anbindung Stützen
  - Schüttgut einfüllen

### Betonfundamente

- Generelle Vorgaben
- Zusätzliche Werkzeuge
- Komponenten
- Montage
  - Abmessungen
  - Abstände
  - Anker Vorbohrungen
  - Anker und Anbindung fixieren
  - Anbindung Stützen

|           |                                        |           |
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| 22        |                                        |           |
| 22        |                                        |           |
| 23        |                                        |           |
| 23        |                                        |           |
| 24        |                                        |           |

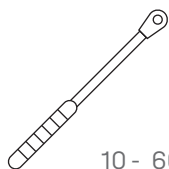
# Hauptwerkzeuge



6 mm



8 mm



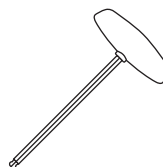
10 - 60 Nm  
(7,4 - 44,2 lb-ft)



6 mm



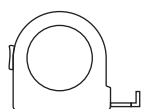
16, 17, 18, 19 mm



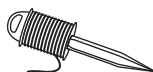
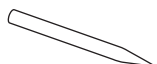
6 mm



16, 17, 18, 19 mm



≥ 3,0 m



## Geprüfte Qualität - mehrfach zertifiziert

K2 Systems steht für sichere Verbindung, höchste Qualität und Präzision. Unsere Kunden und Geschäftspartner wissen das schon lange. Unabhängig Stellen haben unsere Kompetenzen und Komponenten geprüft, bestätigt und zertifiziert.

Unter [k2-systems.com](https://www.k2-systems.com) finden Sie unsere Qualitäts und Produktzertifikate.

# Allgemeine Sicherheitshinweise

Bitte beachten Sie, dass unsere Allgemeinen Montagevorschriften eingehalten werden müssen.

Diese sind einzusehen unter [k2-systems.com](https://www.k2-systems.com)

- Anlagen dürfen nur von Personen montiert und in Betrieb genommen werden, die aufgrund ihrer fachlichen Eignung (z.B. Ausbildung oder Tätigkeit) bzw. Erfahrung die vorschriftsmäßige Durchführung gewährleisten können.
- Vor der Montage muss geprüft werden, ob das Produkt den statischen Anforderungen vor Ort entspricht.
- Nationale und ortsspezifische Bauvorschriften, Normen und Umweltschutzbestimmungen sind unbedingt einzuhalten.
- Arbeitsschutz- und Unfallverhütungsvorschriften, entsprechende Normen sowie Vorschriften der Berufsgenossenschaft sind einzuhalten! Insbesondere ist dabei zu beachten:
  - Es ist Sicherheitskleidung zu tragen (v.a. Schutzhelm, Arbeitsschuhe und Handschuhe).
  - Anwesenheit von zwei Personen ist für den gesamten Montageablauf zwingend, um bei einem eventuellen Unfall schnelle Hilfe gewährleisten zu können.
- K2 Montagesysteme werden stetig weiterentwickelt. Montageabläufe können sich dabei ändern. Vor der Montage daher unbedingt den aktuellen Stand der Montageanleitung unter: [k2-systems.com](https://www.k2-systems.com) überprüfen. Auf Anfrage senden wir Ihnen die aktuelle Version auch gerne zu.
- Die Montageanleitungen der Modulhersteller sind zu beachten.
- Der Potentialausgleich zwischen den einzelnen Anlagenteilen ist nach den jeweiligen landesspezifischen Vorschriften durchzuführen.
- Während der gesamten Montagezeit ist sicherzustellen, dass mindestens ein Exemplar der Montageanleitung auf der Baustelle zur Verfügung steht.
- Bei Nichtbeachtung unserer Montagevorschriften und Montageanleitungen und Nichtverwendung aller Systemkomponenten sowie beim Ein- und Ausbau von Bauteilen, die nicht über uns bezogen wurden, übernehmen wir für daraus resultierende Mängel und Schäden keine Haftung. Die Gewährleistung ist in soweit ausgeschlossen.
- Bei Missachtung unserer Allgemeinen Sicherheitshinweise sowie beim Ein- oder Anbau von Bauteilen des Wettbewerbs behält sich die K2 Systems GmbH den Haftungsausschluss vor.
- Wenn alle Sicherheitshinweise beachtet werden und die Anlage sachgemäß installiert wird, besteht ein Produktgarantie-Anspruch von 12 Jahren! Bitte beachten Sie unsere Garantie-Bedingungen, welche einzusehen sind unter [k2-systems.com](https://www.k2-systems.com). Auf Anfrage senden wir Ihnen diese selbstverständlich gerne zu.
- Die Demontage des Systems erfolgt anhand der Montageschritte in umgekehrter Reihenfolge.
- K2 Bauteile aus nichtrostenden Stählen sind in unterschiedlichen Korrosionswiderstandsklassen erhältlich. In jedem Fall ist zu prüfen, welche Korrosionsbelastung für das jeweilige Bauwerk oder Bauteil zu erwarten ist.



# Generell gilt



Unter den folgenden Bedingungen kann dieses System standardmäßig verbaut werden. Auch wenn das System durch den Einbezug von Sicherheitsfaktoren höheren Anforderungen gewachsen ist, wenden Sie sich bitte beim Überschreiten der angegebenen Werte zur Prüfung an Ihren Ansprechpartner bei K2 Systems.



## Wichtige Montagehinweise

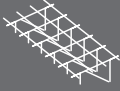
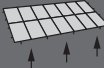
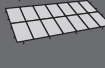
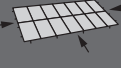
- Bauseits müssen die allgemeinen Normen und Vorschriften für den Blitzschutz beachtet und ggf. eine Fachkraft zur Erstellung eines Blitzschutzkonzeptes (ggf. Blitzschutzklemme verwenden) hinzugezogen werden. Landesspezifische Vorschriften sind hierbei einzuhalten.
- Herstellerangaben zum Klemmbereich der Modulklemmen und zur Montage der Module beachten (siehe Moduldatenblatt des Herstellers).
- Modulrahmenhöhen: 25 - 40 mm



## Statische Hinweise

Je nach Fundamentierung der N-Rack Kits gelten andere statische Vorgaben. Diese Hinweise finden sie im jeweiligen Kapitel:

- Gabionen Seite 14
- Betonfundamente Seite 20
- Schraubfundamente Seite 26
- Rammfundamente Seite 30

| N-Rack Top Kit<br> | Modulanzahl<br> | Modulgrößen   |               | Zulässige Lasten                                          |                                            | Abhebende Auflagerkräfte<br> | Vertikale Auflagerkräfte<br> | Horizontale Auflagerkräfte<br> |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------|---------------|-----------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|                                                                                                       |                                                                                                    | Länge [mm]    | Breite [mm]** | Böengeschwindigkeitsdruck $q_p(z)^*$<br>kN/m <sup>2</sup> | Bodenschneelast $s_k$<br>kN/m <sup>2</sup> | kN                                                                                                               | kN                                                                                                                | kN                                                                                                                  |
| <b>2×7 S</b>                                                                                          | <b>14</b>                                                                                          | 1.722 - 1.905 | ≤ 1.150       | 0,67                                                      | 1,75                                       | -6,27                                                                                                            | 12,17                                                                                                             | 0,97                                                                                                                |
| <b>2×7 L</b>                                                                                          | <b>14</b>                                                                                          | 1.906 - 2.384 | ≤ 1.150       | 0,67                                                      | 1,75                                       | -6,29                                                                                                            | 11,92                                                                                                             | 0,96                                                                                                                |
| <b>2×12 S</b>                                                                                         | <b>24</b>                                                                                          | 1.722 - 1.905 | ≤ 1.150       | 0,67                                                      | 1,75                                       | -7,03                                                                                                            | 13,63                                                                                                             | 1,09                                                                                                                |
| <b>2×12 L</b>                                                                                         | <b>24</b>                                                                                          | 1.906 - 2.384 | ≤ 1.150       | 0,67                                                      | 1,75                                       | -6,66                                                                                                            | 12,63                                                                                                             | 1,02                                                                                                                |

\* Böengeschwindigkeitsdruck bezogen auf eine Nutzungsdauer von 50 Jahre. Die N-Rack Kits sind statisch für 25 Jahre ausgelegt.

\*\* Auch Module mit Rahmenbreite bis zu 1.303 mm lassen sich integrieren. In diesem Fall wird das Layout wie folgt angepasst:

- 2 × 6 Module anstelle von 2 × 7
- 2 × 10 Module anstelle von 2 × 12

# Überblick Hauptkomponenten

## N-Rack Top Kits

2004925

**N-Rack Top Kit 2×7 S**

2004924

**N-Rack Top Kit 2×7 L**

2005048

**N-Rack Top Kit 2×12 S**

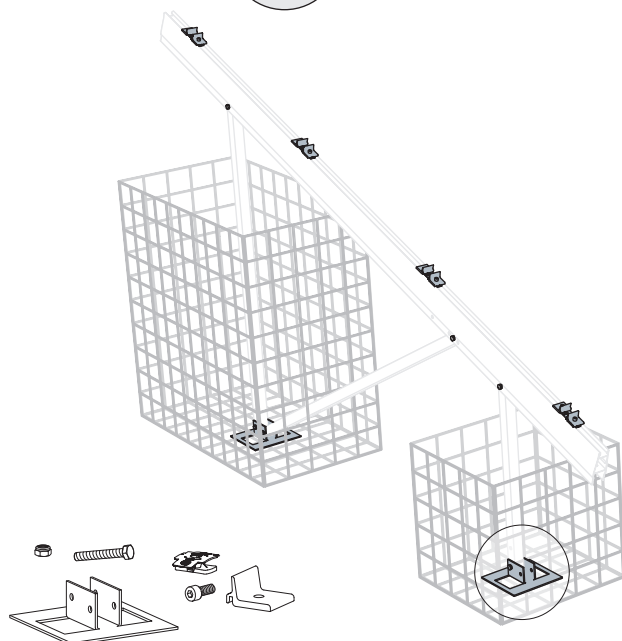
2005047

**N-Rack Top Kit 2×12 L**

Inhalt N-Rack Top Kits siehe Seite 8 und 9!

## N-Rack Ground Kits

### Gabionen



2005110

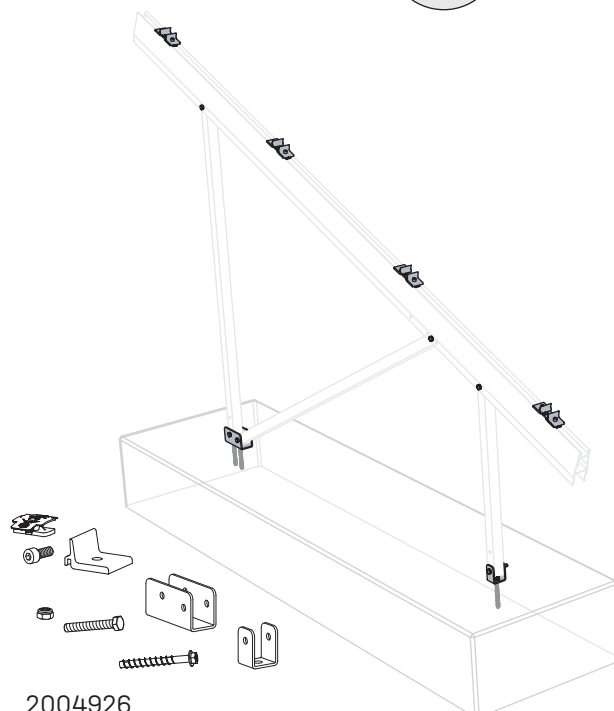
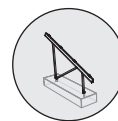
**N-Rack Ground Kit Gabion**

Inhalt siehe Seite 10!

**Montage siehe Seite 14!**

Bezug Gabionen über K2 Händler oder  
bauseitige Alternative.

### Betonfundamente



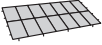
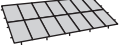
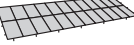
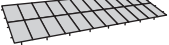
2004926

**N-Rack Ground Kit Concrete**

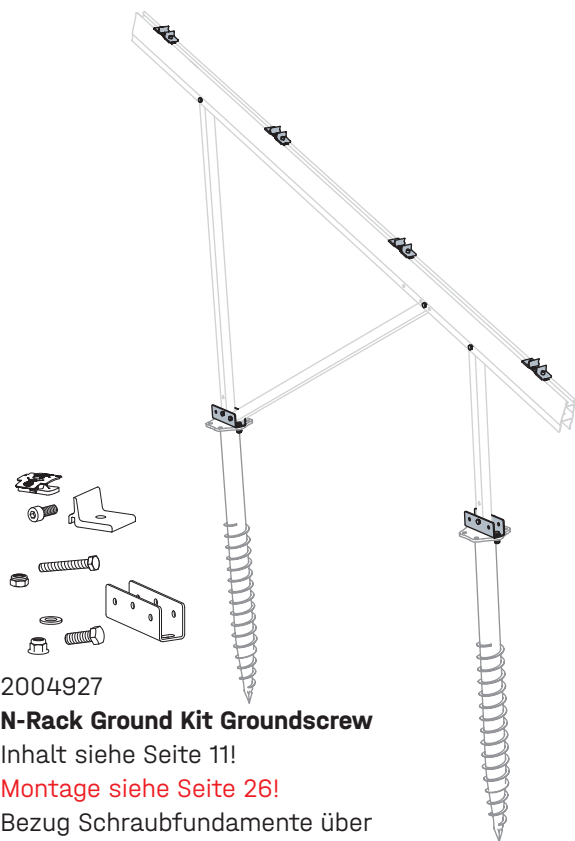
Inhalt siehe Seite 10!

**Montage siehe Seite 20!**

Fundamente sind bauseits herzustellen.

| N-Rack Ground Kit   |             | N-Rack Top Kit                                                                    |                                                                                   |                                                                                    |                                                                                     |
|---------------------|-------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                     |             | 2×7                                                                               |                                                                                   | 2×12                                                                               |                                                                                     |
| Modullängen         |             | S                                                                                 | L                                                                                 | S                                                                                  | L                                                                                   |
| S: 1.722 - 1.905 mm |             |  |  |  |  |
| L: 1.906 - 2.384 mm |             | 1×                                                                                | 1×                                                                                | 1×                                                                                 | 1×                                                                                  |
| Modulbreiten        |             | 2004925                                                                           | 2004924                                                                           | 2005048                                                                            | 2005047                                                                             |
| S/L: ≤1.150 mm      |             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| Fundamenttyp        | Artikel Nr. | Benötigte Anzahl N-Rack Ground Kits je N-Rack Top Kit                             |                                                                                   |                                                                                    |                                                                                     |
| Gabionen            | 2005110     | 4×                                                                                | 5×                                                                                | 6×                                                                                 | 8×                                                                                  |
| Betonfundamente     | 2004926     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| Drehfundamente      | 2004927     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| Rammfundamente      | 2005113     |                                                                                   |                                                                                   |                                                                                    |                                                                                     |

## Schraubfundamente



2004927

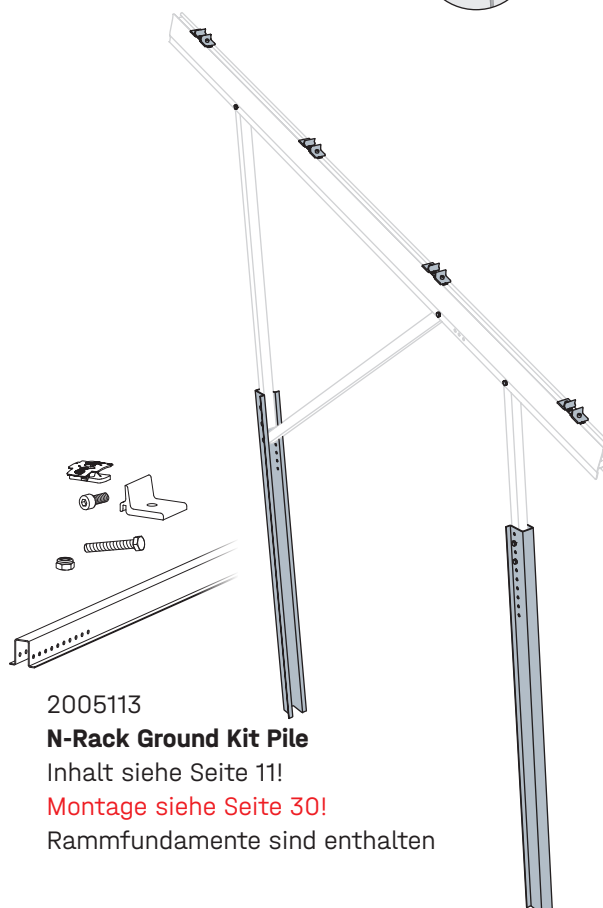
### N-Rack Ground Kit Groundscrew

Inhalt siehe Seite 11!

Montage siehe Seite 26!

Bezug Schraubfundamente über  
K2 Händler oder bauseitige Alternative.

## Rammfundamente



2005113

### N-Rack Ground Kit Pile

Inhalt siehe Seite 11!

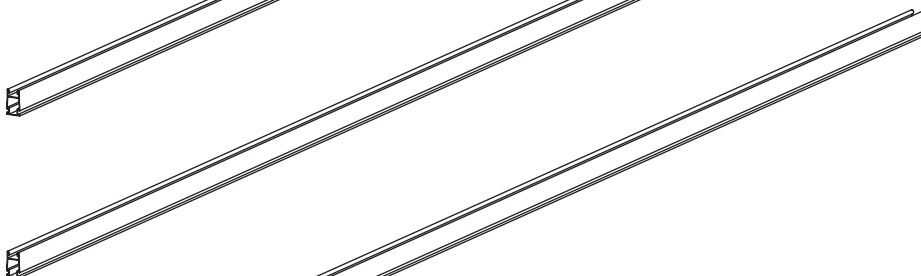
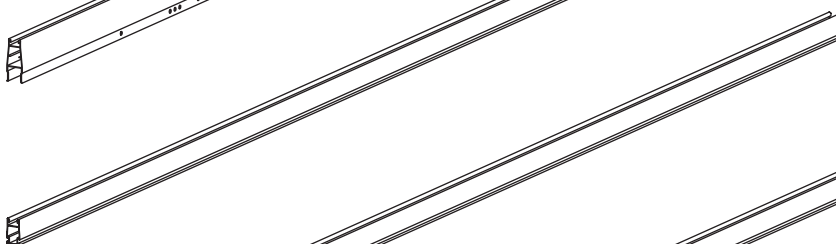
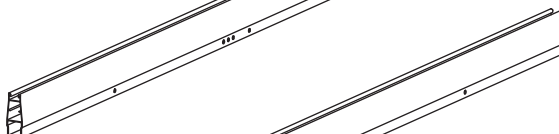
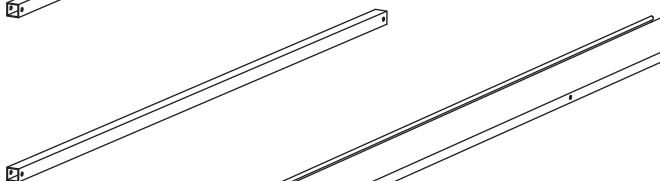
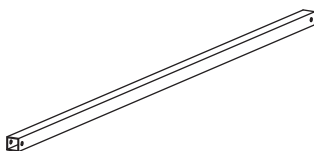
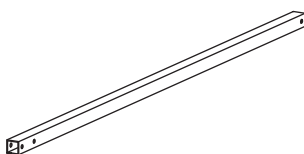
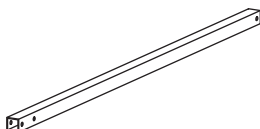
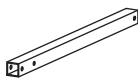
Montage siehe Seite 30!

Rammfundamente sind enthalten

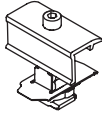
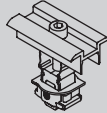
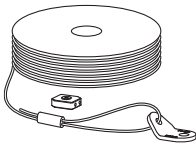
# Artikelaufstellungen

## N-Rack Top Kits

| Artikelmenge |    |      |    | Artikel                                |
|--------------|----|------|----|----------------------------------------|
| 2×7          |    | 2×12 |    |                                        |
| S            | L  | S    | L  |                                        |
| 4×           | 5× | 6×   | 8× | 2004401<br>3-Hole Brace<br>N-Rack 715  |
| 4×           |    | 6×   |    | 2004402<br>3-Hole Brace<br>N-Rack 1370 |
|              | 5× |      | 8× | 2004403<br>3-Hole Brace<br>N-Rack 1625 |
| 4×           |    | 6×   |    | 2004404<br>2-Hole Brace<br>N-Rack 1696 |
|              | 5× |      | 8× | 2004411<br>2-Hole Brace<br>N-Rack 2072 |
|              | 5× |      | 8× | 2004399<br>Beam N-Rack<br>3750         |
| 4×           |    | 6×   |    | 2004400<br>Beam N-Rack<br>3020         |
| 4×           | 4× |      |    | 2005064<br>CrossRail 73<br>3,3 m       |
|              |    | 8×   | 8× | 2004460<br>CrossRail 73<br>4,55 m      |
| 4×           | 4× | 4×   | 4× | 2004461<br>CrossRail 73<br>5 m         |

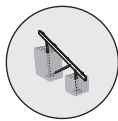


## Small parts

| Artikelmenge |     |      |     | Artikel                                        |                                                                                     |
|--------------|-----|------|-----|------------------------------------------------|-------------------------------------------------------------------------------------|
| 2×7          |     | 2×12 |     |                                                |                                                                                     |
| S            | L   | S    | L   |                                                |                                                                                     |
| 4×           | 4×  | 8×   | 8×  | 2004409<br><b>CrossRail 73<br/>Connector</b>   |    |
| 20×          | 20× | 40×  | 40× | 1001051<br><b>Bohrschraube<br/>5,5 × 25 A2</b> |    |
| 8×           | 8×  | 8×   | 8×  | 2004543<br><b>K2 Clamp EC<br/>25 - 40</b>      |    |
| 24×          | 24× | 44×  | 44× | 2004146<br><b>K2 Clamp MC<br/>25 - 40</b>      |   |
| 2×           | 2×  | 2×   | 2×  | 2004410<br><b>Windverband<br/>Set</b>          |  |

# N-Rack Ground Kits

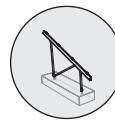
## Gabion



Ein **N-Rack Ground Kit Gabion 2005110** enthält folgende Artikel:

| Artikel-menge | Artikel                                           |  |
|---------------|---------------------------------------------------|--|
| 2×            | 2005109<br><b>N-Rack Gabion Foot</b>              |  |
| 7×            | 2004408<br><b>Sechskant-schraube M10 × 70</b>     |  |
| 7×            | 1002849<br><b>Sechskant Sicherungs-mutter M10</b> |  |
| 8×            | 2003145<br><b>Climber 36/50 Set</b>               |  |

## Concrete



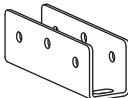
Ein **N-Rack Ground Kit Concrete 2004926** enthält folgende Artikel:

| Artikel-menge | Artikel                                           |  |
|---------------|---------------------------------------------------|--|
| 1×            | 2004391<br><b>N-Rack Foot Front</b>               |  |
| 1×            | 2004392<br><b>N-Rack Foot Back</b>                |  |
| 3×            | 2004407<br><b>Heco Multi-Monti 12 × 105</b>       |  |
| 7×            | 2004408<br><b>Sechskant-schraube M10 × 70</b>     |  |
| 7×            | 1002849<br><b>Sechskant Sicherungs-mutter M10</b> |  |
| 8×            | 2003145<br><b>Climber 36/50 Set</b>               |  |

## Groundscrew



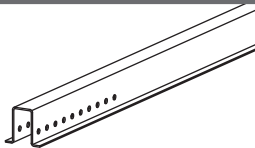
Ein **N-Rack Ground Kit Groundscrew 2004927** enthält folgende Artikel:

| Artikel-menge | Artikel                                                    |                                                                                     |
|---------------|------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 2×            | 2004896<br><b>N-Rack<br/>GS Foot</b>                       |    |
| 4×            | 2004902<br><b>Sechskant-<br/>schraube<br/>M12 × 35</b>     |    |
| 4×            | 2004910<br><b>Unterleg-<br/>scheibe M12</b>                |  |
| 4×            | 2004903<br><b>Sechskant-<br/>mutter M12</b>                |  |
| 9×            | 2004408<br><b>Sechskant-<br/>schraube<br/>M10 × 70</b>     |  |
| 9×            | 1002849<br><b>Sechskant<br/>Sicherungs-<br/>mutter M10</b> |  |
| 8×            | 82003145<br><b>Climber 36/50<br/>Set</b>                   |  |

## Pile

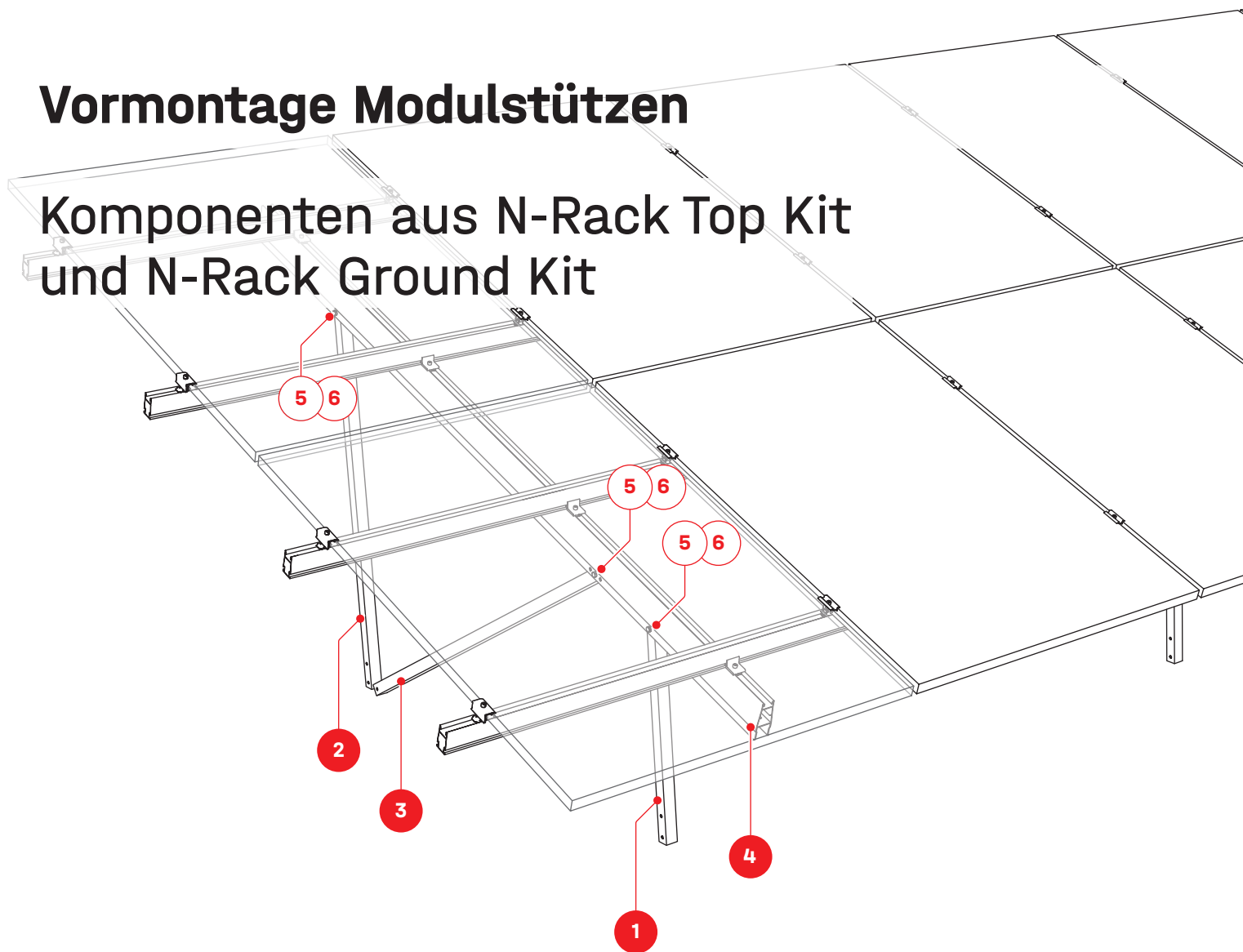


Ein **N-Rack Ground Kit Pile 2005113** enthält folgende Artikel:

| Artikel-menge | Artikel                                                    |                                                                                       |
|---------------|------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 2×            | 2005112<br><b>Cap-Profile<br/>N-Rack 2,3 m</b>             |    |
| 7×            | 2004408<br><b>Sechskant-<br/>schraube<br/>M10 × 70</b>     |    |
| 7×            | 1002849<br><b>Sechskant<br/>Sicherungs-<br/>mutter M10</b> |  |
| 8×            | 2003145<br><b>Climber 36/50<br/>Set</b>                    |  |

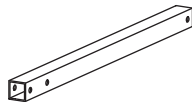
# Vormontage Modulstützen

## Komponenten aus N-Rack Top Kit und N-Rack Ground Kit

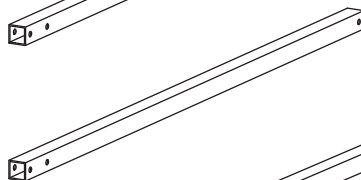


N-Rack Top Kit

1 3-Loch Brace N-Rack



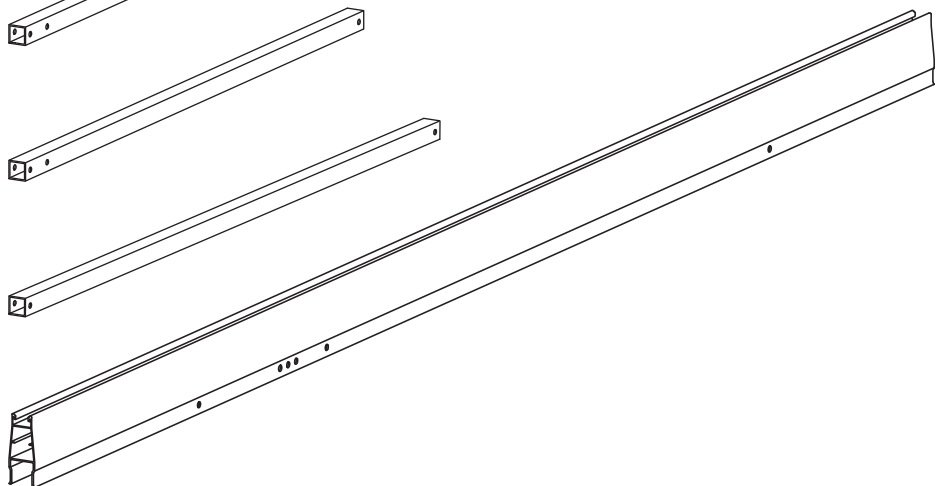
2 3-Loch Beam N-Rack



3 2-Loch Beam N-Rack



4 Beam N-Rack



N-Rack Ground Kit

5 Sechskantschraube mit Schaft M10 x 70



6 Sechskant Sicherungsmutter M10



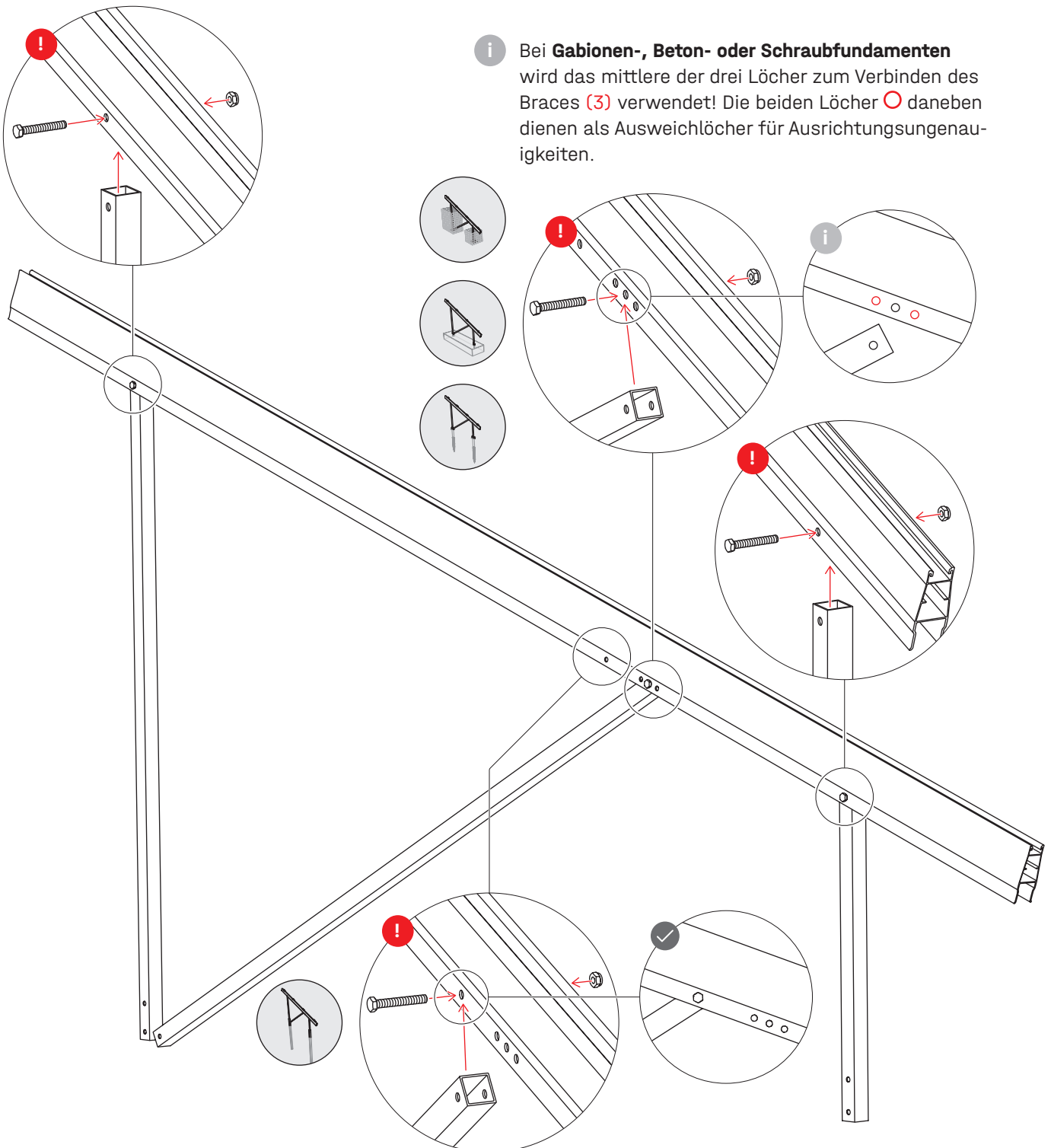


# Stützen

1

! Schrauben nur handfest anziehen.

i Bei **Gabionen-, Beton- oder Schraubfundamenten** wird das mittlere der drei Löcher zum Verbinden des Braces (3) verwendet! Die beiden Löcher O daneben dienen als Ausweidlöcher für Ausrichtungsungenauigkeiten.



Für **Rammprofile** muss der Brace (3) mit dem einzelnen Loch verbunden werden!



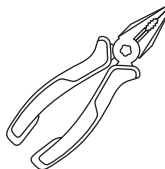
## Generelle Vorgaben

## Zusätzliche Werkzeuge



### Bodenanforderungen

Der Untergrund ist so zu verdichten und vorzubereiten, dass er eine setzungsarme und tragfähige Basis gemäß den anerkannten Regeln der Technik (insb. DIN EN 1997-1-Eurocode7-Geotechnik) bildet, um die dauerhafte Lagesicherheit des Bauwerks zu garantieren.



### Statische Anforderungen

| N-Rack Top Kit | Modul-anzahl | Füllgewicht |      |
|----------------|--------------|-------------|------|
|                |              |             |      |
|                |              | [kg]        | [kg] |
| <b>2×7 S</b>   | <b>14</b>    | 220         | 700  |
| <b>2×7 L</b>   | <b>14</b>    | 230         | 700  |
| <b>2×12 S</b>  | <b>24</b>    | 240         | 790  |
| <b>2×12 L</b>  | <b>24</b>    | 240         | 740  |

### Wichtige Hinweise

Es sind Gabionen mit einer Maschenweite von 100 mm zu verwenden.

Gabionen sollten mit frost- und witterungsbeständigem, ausreichend druckfestem Steinmaterial hohlraumarm befüllt werden.

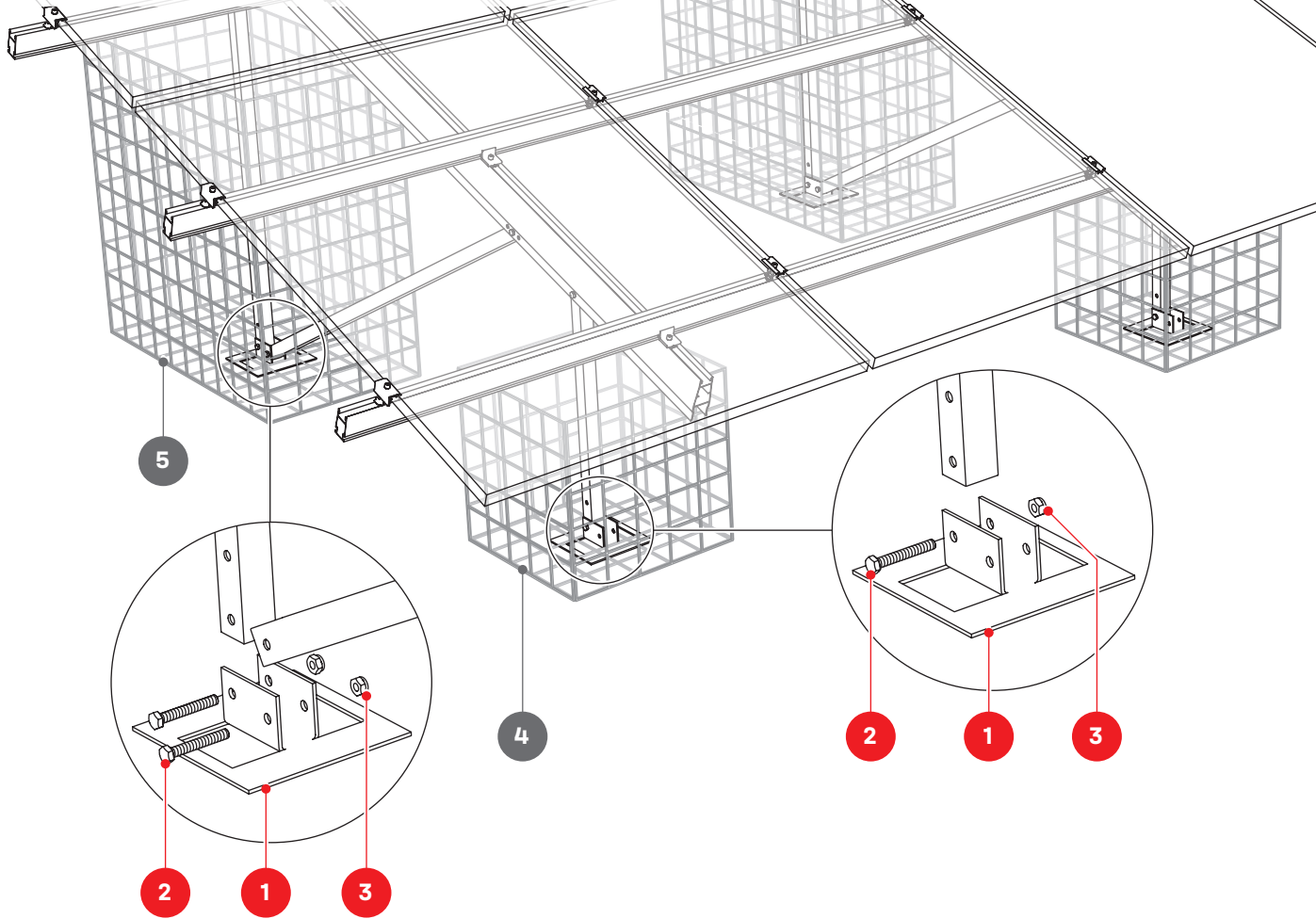
Das Schüttgut an der Luftseite muss größer als die Maschenweite sein.

Die Angaben des Gabionen Herstellers sind zu beachten.

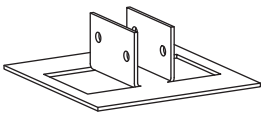
Die Montageanleitung für die Gabionen Art. Nr. 2005184 Gabion 50×50×50 und Art. Nr. 2005185 Gabion 100×50×100 ist hier abrufbar: [www.rothfuss-bestgabion.de/wp-content/uploads/2025/02/Montageanleitung-ROKO-DE.pdf](http://www.rothfuss-bestgabion.de/wp-content/uploads/2025/02/Montageanleitung-ROKO-DE.pdf)

# Komponenten

aus N-Rack Ground Kit Gabion 2005110



## N-Rack Ground Kit Gabion



**1** 2005109  
N-Rack Gabion Foot

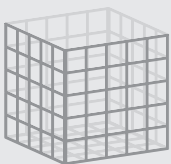


**2** 2004408  
Sechskantschraube  
mit Schaft M10 × 70

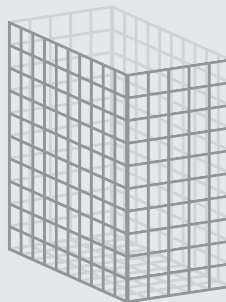


**3** 1002849  
Sechskant Sicherungs-  
mutter M10

## Erforderlich - nicht im Lieferumfang



**4** 2005184  
Gabion 50×50×50  
oder bauseitige Alternative



**5** 2005185  
Gabion 100×50×100  
oder bauseitige Alternative

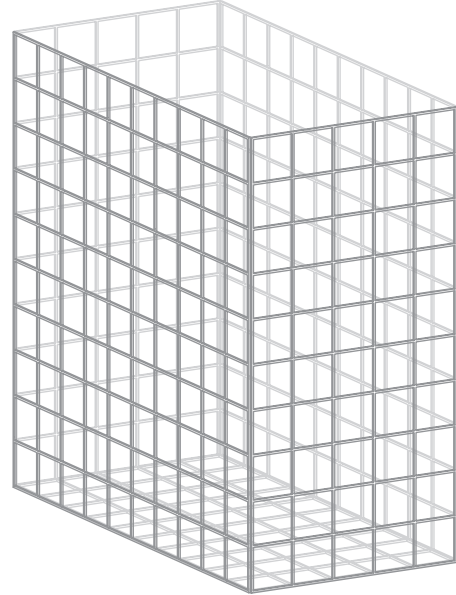
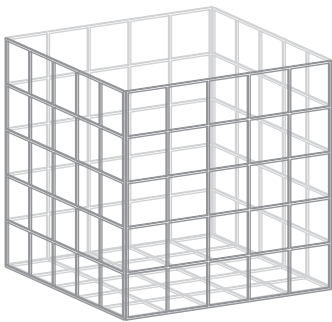
# Montage

## Gabionen vorbereiten

**1a**

Beim Aufbau der Gabionen die Montageanleitung des Herstellers beachten.

Die Montageanleitung für die Gabionen Art. Nr. 2005184 Gabion 50×50×50 und Art. Nr. 2005185 Gabion 100×50×100 ist hier abrufbar: [Montageanleitung.pdf](#)

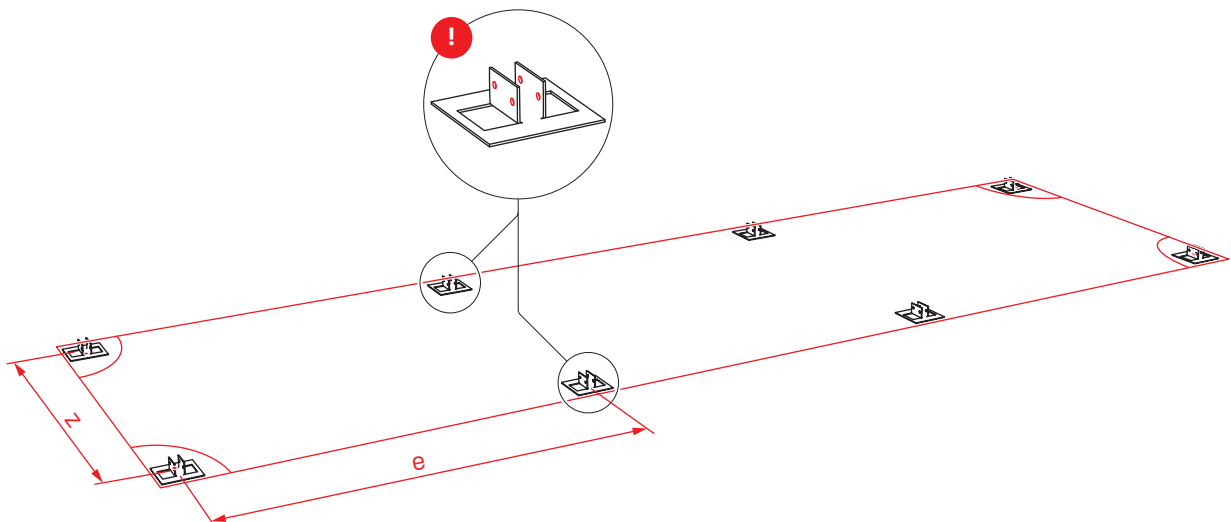


Damit der Einbau der Stütze einfacher ist, sollte das hintere Seitengitter noch geöffnet bleiben.

## Abstände

**1b**

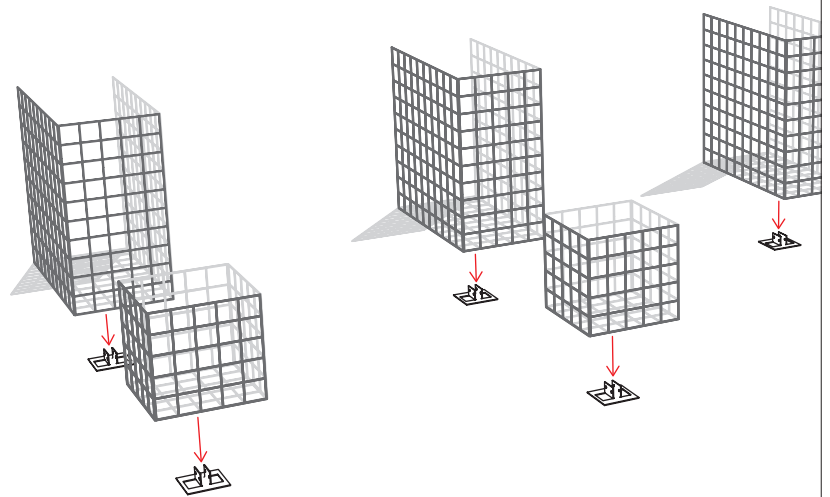
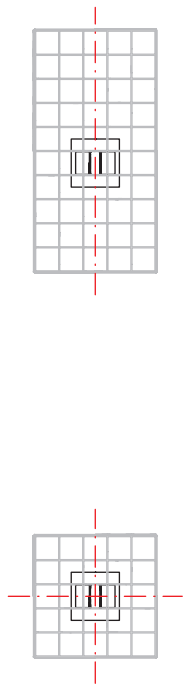
Werte **e** und **z** in den Systemdatenblätter „Gabionen“ ab Seite 40.



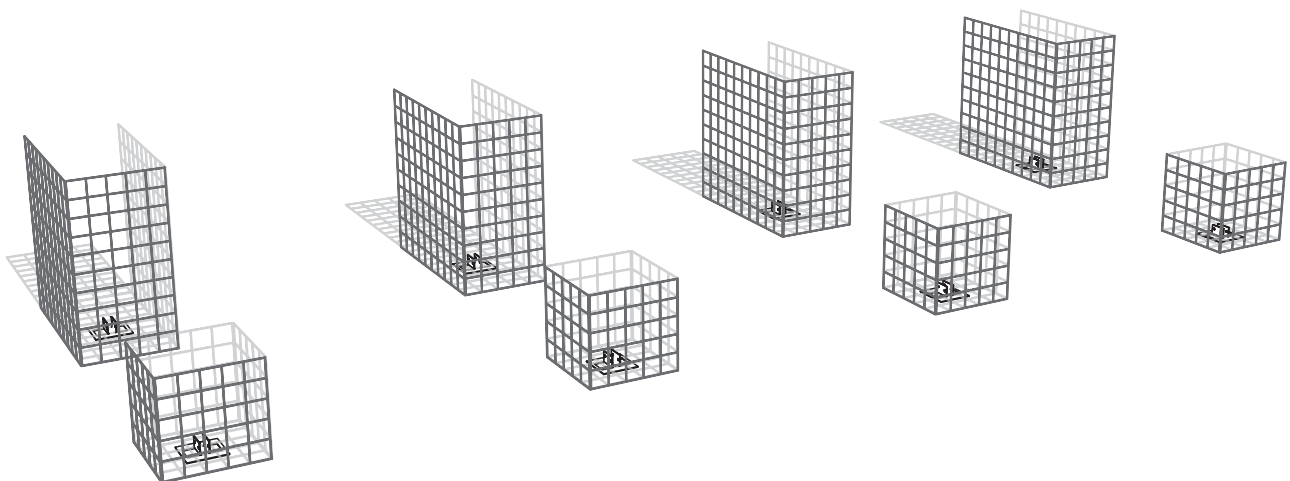
**!** Ausrichtung N-Rack Gabion Foot beachten

## Gabionen setzen

2a



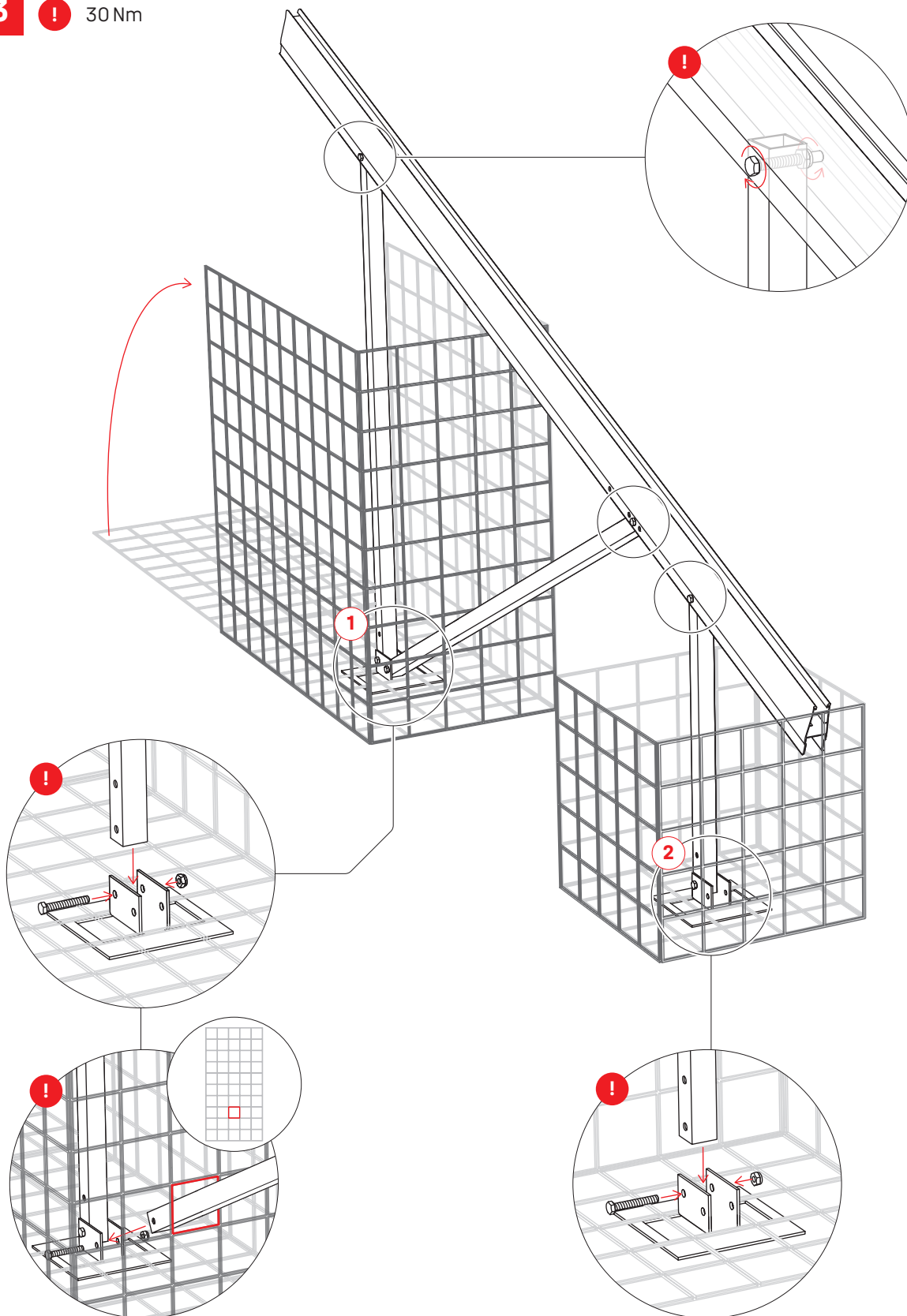
2b



## Anbindung Stützen

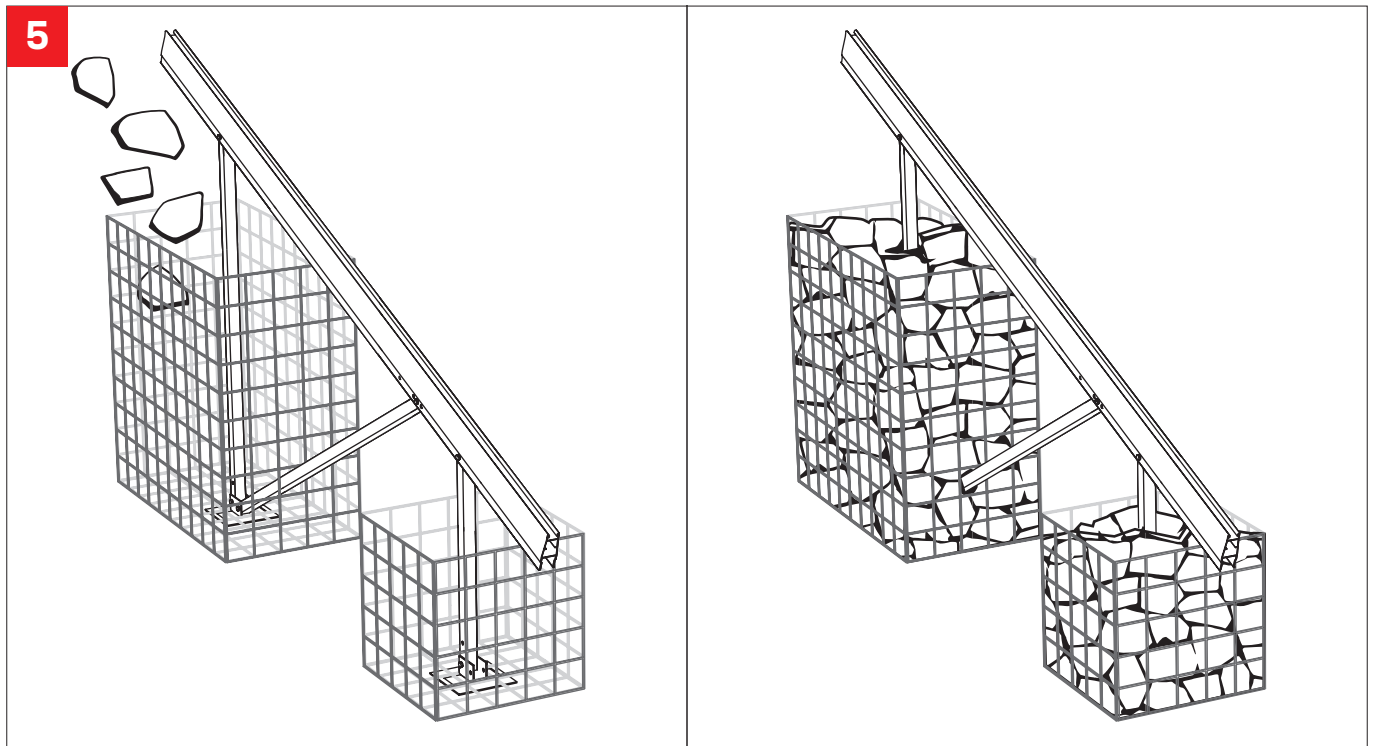


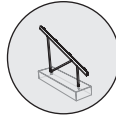
30 Nm



Für das N-Rack Kit mit Gabionen ist kein Windverband erforderlich.

## Schüttgut einfüllen





## Generelle Vorgaben



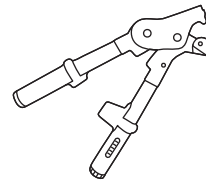
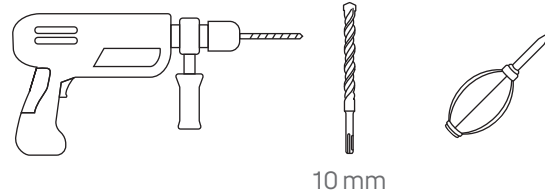
### Bodenanforderungen

Der Untergrund ist so zu verdichten und vorzubereiten, dass er eine setzungsarme und tragfähige Basis gemäß den anerkannten Regeln der Technik (insb. DIN EN 1997-1-Eurocode7-Geotechnik) bildet, um die dauerhafte Lagesicherheit des Bauwerks zu garantieren.

### Statische Anforderungen

Die Betonfundamente sind gegen Abheben und Kippen infolge der Windsoglasten vordimensioniert. Eine Bewehrung des Fundamentes ist vorzusehen, wie in der Prinzipskizze „Abmessungen“ auf Seite 22 dargestellt. Die Bestimmung der endgültigen Dimension der Betonfundamente sowie deren Bewehrungsplan ist bauseits zu überprüfen.

## Zusätzliche Werkzeuge

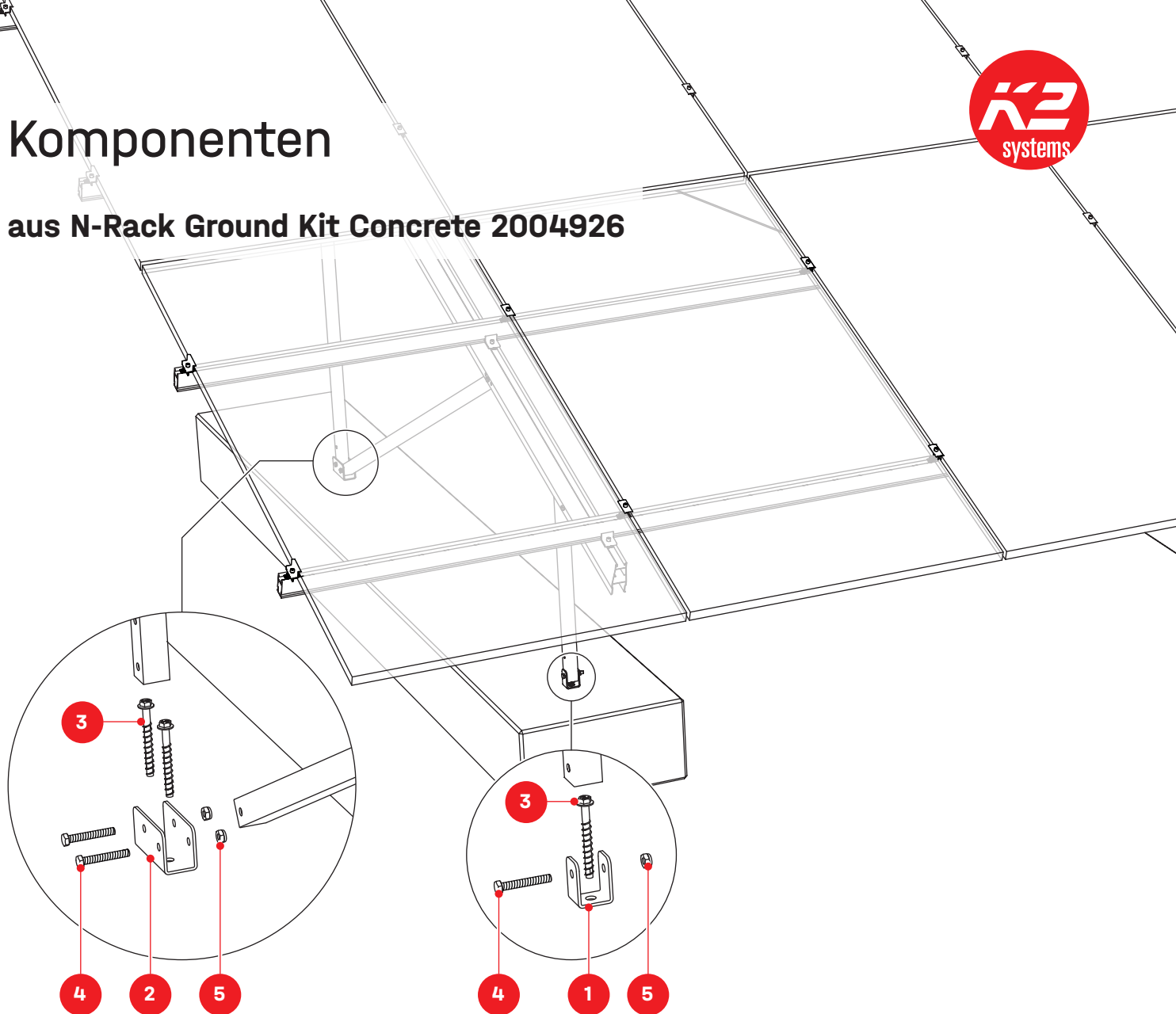


**Gripper Spannzange 400** · 2004456



# Komponenten

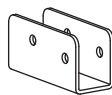
aus N-Rack Ground Kit Concrete 2004926



## N-Rack Ground Kit Concrete



**1** 2004391  
N-Rack Concrete Foot Front



**2** 2004392  
N-Rack Concrete Foot Back



**3** 2004407  
Heco Multi-Monti 12 × 105



**4** 2004408  
Sechskantschraube  
mit Schaft M10 × 70



**5** 1002849  
Sechskant Sicherungs-  
mutter M10

# Montage

## Abmessungen

i

Die Betonfundamente müssen bauseits beschafft bzw. selbst erstellt werden.

Betonstahl:

Betonfestigkeit:

Betondeckung der Bewehrung:

B500

min. C25/30

$c_M/c_S \geq 0,04\text{ m}$

| N-Rack           | 2×7 S | 2×7 L | 2×12 S | 2×12 L |
|------------------|-------|-------|--------|--------|
| L [m]            | 2,80  | 3,40  | 2,80   | 3,40   |
| b [m]            | 0,45  | 0,45  | 0,78   | 0,72   |
| h [m]            | 0,40  | 0,40  | 0,40   | 0,40   |
| V [m³]           | 0,50  | 0,61  | 0,87   | 0,98   |
| d [m]            | 0,30  | 0,30  | 0,30   | 0,30   |
| Anzahl der Bügel | 10 ×  | 12 ×  | 10 ×   | 12 ×   |

## Abstände

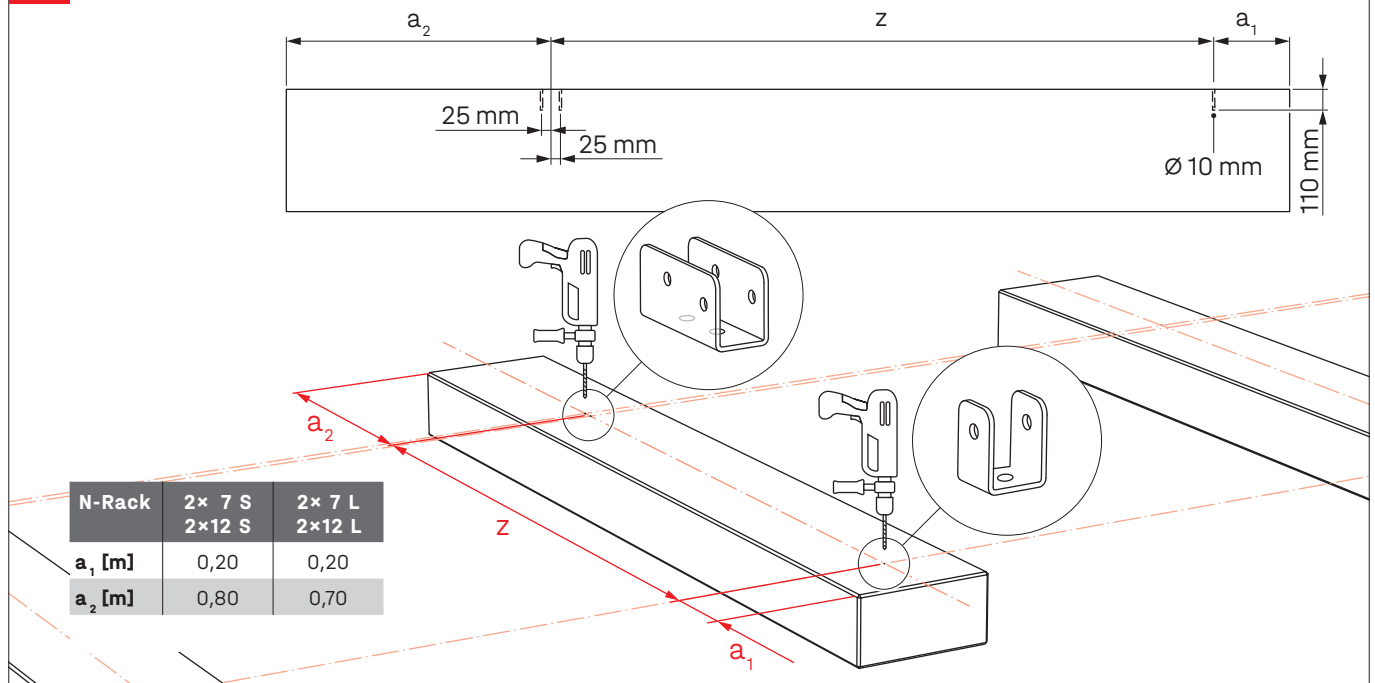
1

Werte  $e$  und  $z$  in den Systemdatenblätter „Betonfundamente“ ab Seite 48.

## Anker Vorbohrungen

**2**

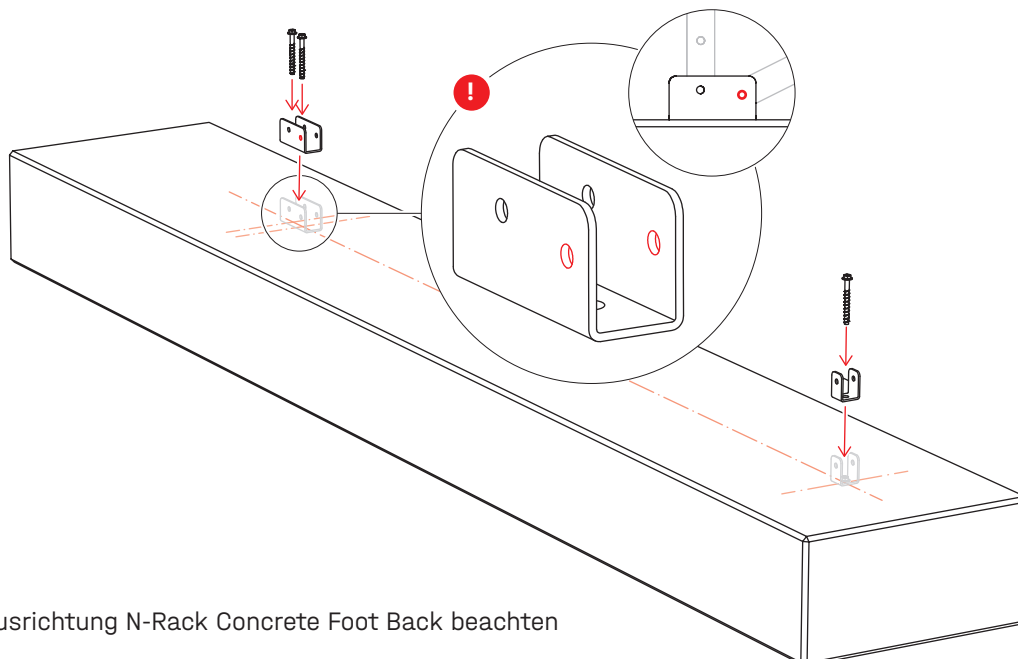
Wert  $z$  in den Systemdatenblätter „Betonfundamente“ ab Seite 48.



## Anker und Anbindung fixieren

**3**

! 90 Nm



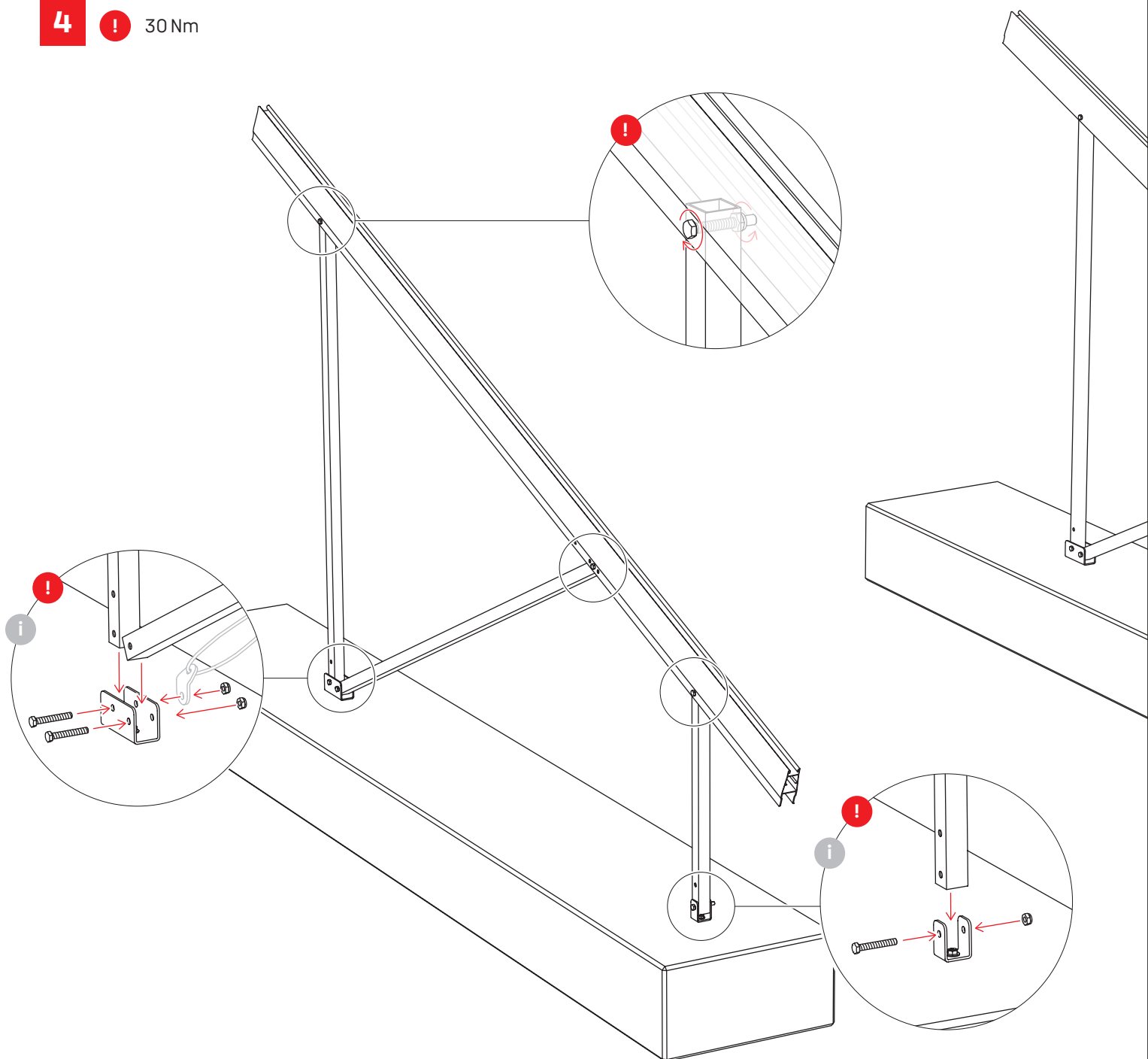
! Ausrichtung N-Rack Concrete Foot Back beachten

## Anbindung Stützen

4



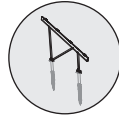
30 Nm



- i** Anbringung des Windverbandes an den äußeren Betonfundamenten.  
„Herstellung Windverband“ auf Seite 38.



# Schraubfundamente



## Generelle Vorgaben



### Baugrundannahme

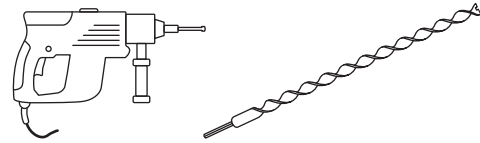
Die Anzahl und die erforderliche Grösse der jeweiligen Schraubfundamente ist immer abhängig von der Bodenart, Grösse, Gewicht sowie Wind und Schnee-lasten der geplanten Aufbauten. Es wird ausgegangen von Bodenklasse TL/TM gemäss DIN 18196, Konsistenz halbfest (DIN 1422). Grundlage der endgültigen Fundamentbemessung ist die Vorort zu ermittelnde Bodenbeschaffenheit sowie der statische Nachweis der Tragfähigkeit, basierend auf ein zutreffendes statisches Berechnungsmodell.



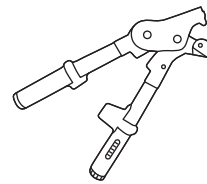
### Statische Anforderungen

- Anforderungen Kits
  - 1,2 – 1,25 m Eindrehtiefe Schraubfundamente Krinner M16 bis  $\leq 1,75$  kN Schnee und  $\leq 0,67$  kN Wind

## Zusätzliche Werkzeuge



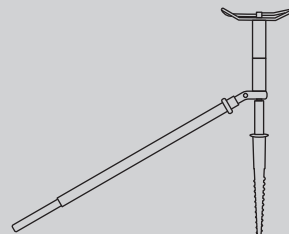
Bohrhammer inkl. Bohrer 25 mm



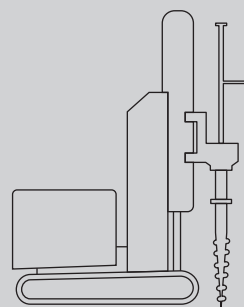
Gripple Spannzange 400 · 2004456



Geräte/Maschinen zum Eindrehen der Schraubfundamente sind beim Baugeräteverleih erhältlich. Alternativ kann auch der Garten- und Landschaftsbau beauftragt werden.



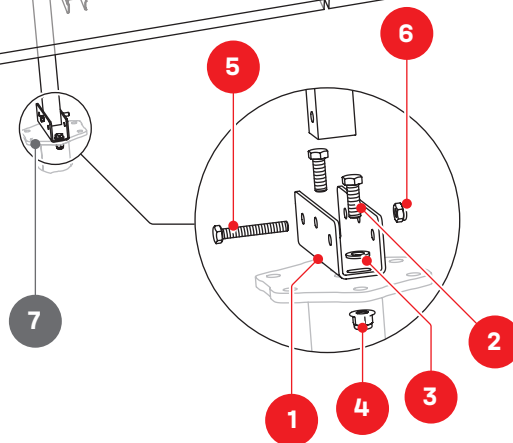
Eindrehmaschine z.B.: Krinner KR E 20-SC



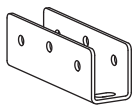
Selbstfahrendes Raupenfahrzeug z.B.: Krinner KR D 30-CO

# Komponenten

aus N-Rack Ground Kit Groundscrew 2004927



## N-Rack Ground Kit Groundscrew



**1** 2004896  
N-Rack GS Foot



**2** 2004902  
Sechskantschraube  
M12 x 35



**3** 2004910  
Unterlegscheibe  
M12



**4** 2004903  
Sechskantmutter mit  
Flansch M12

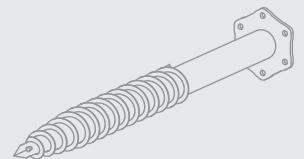


**5** 2004408  
Sechskantschraube  
mit Schaft M10 x 70



**6** 1002849  
Sechskant Siche-  
rungsmutter M10

**Erforderlich - nicht  
im Lieferumfang**



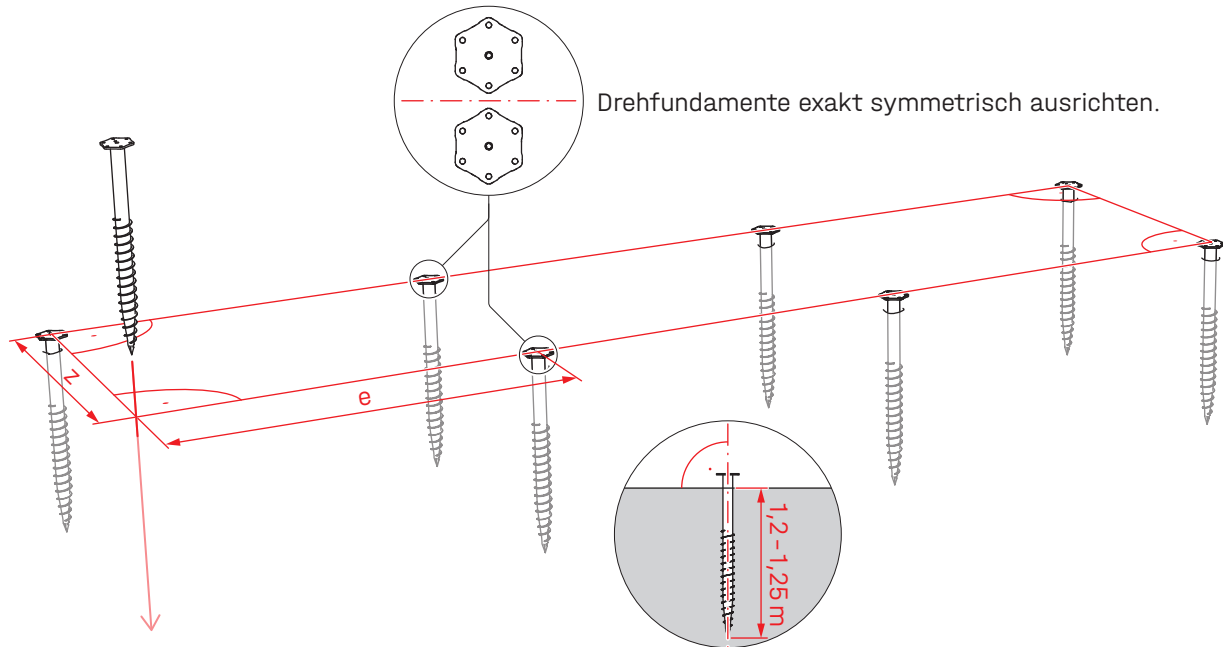
**7** 2005095  
Schraubfundament 1,30 m  
KSF M76 1300 M16  
oder bauseitige Alternative

# Montage

## Gründung und Abstände

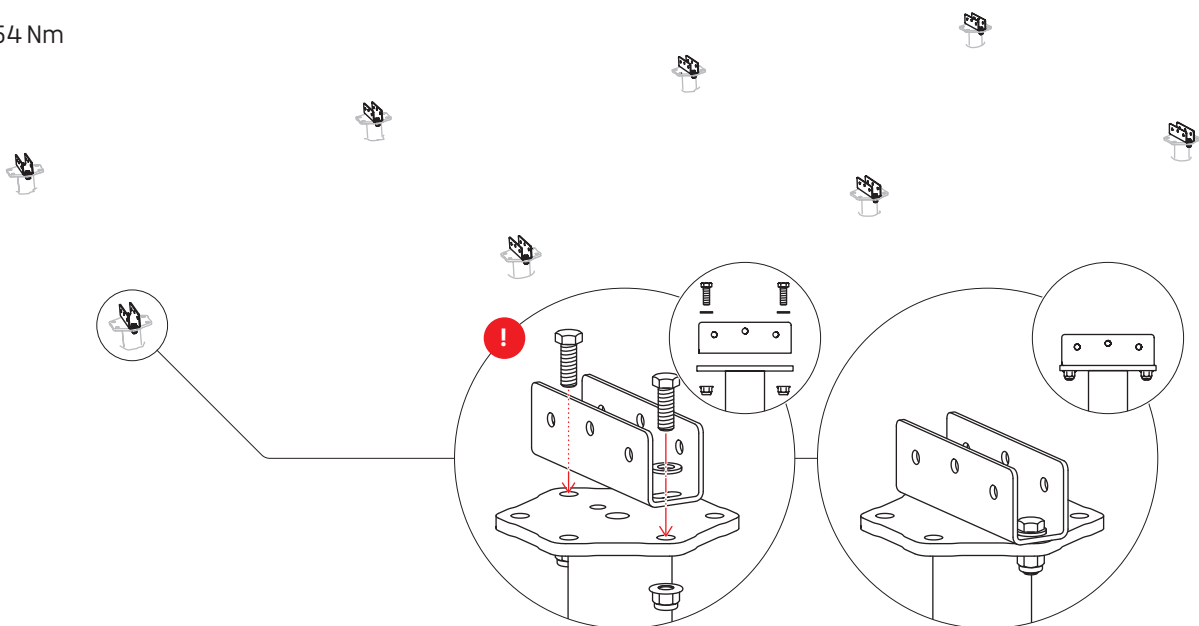
1

Werte  $e$  und  $z$  in den Systemdatenblätter „Schraubfundamente“ ab Seite 56.



2a

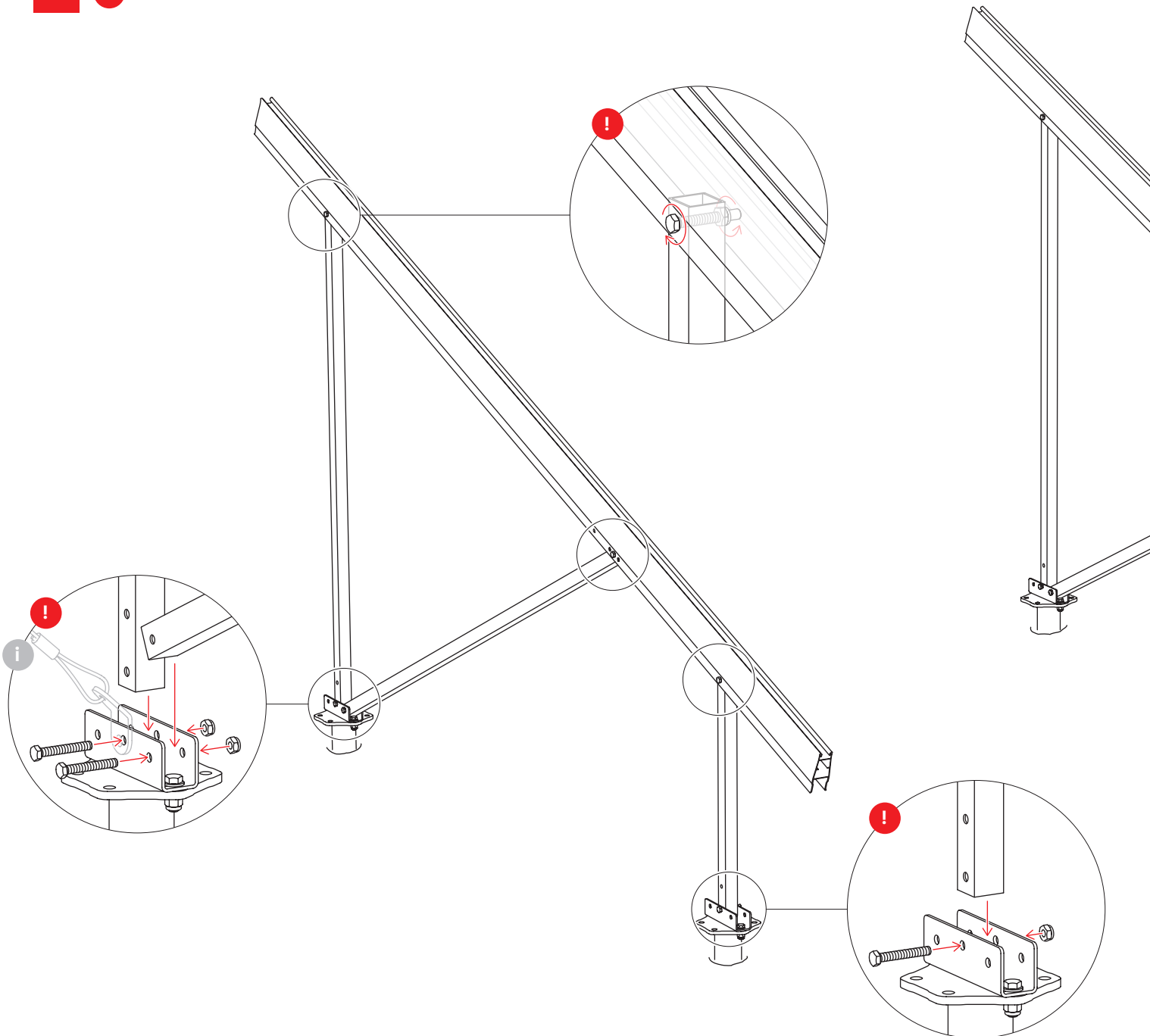
! 54 Nm





## Anbindung Stützen

**2b** ! 30 Nm



**i** Anbringung des Windverbandes: „Herstellung Windverband“ auf Seite 38.



## Generelle Vorgaben



### Bodenanforderungen

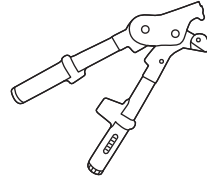
Die Anzahl und die erforderliche Grösse der jeweiligen Rammpfosten ist immer abhängig von der Bodenart, Grösse, Gewicht sowie Wind und Schnee-lasten der geplanten Aufbauten. Es wird ausgegangen von Bodenklasse TL/TM gemäss DIN 18196, Konsistenz halbfest (DIN 1422). Grundlage der endgültigen Fundamentbemessung ist die Vorort zu ermittelnde Bodenbeschaffenheit sowie der statische Nachweis der Tragfähigkeit, basierend auf ein zutreffendes statisches Berechnungsmodell.

### Statische Anforderungen

Anforderungen Kits

- 1,8 – 1,9 m Einbindetiefe Hutprofil K2
- ≤ 1,75 kN Schnee und ≤ 0,67 kN Wind

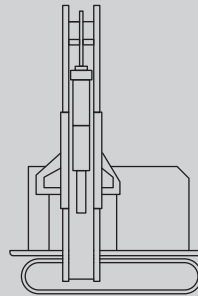
## Zusätzliche Werkzeuge



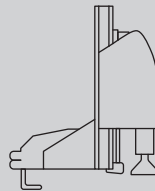
Gripple Spannzange 400 · 2004456



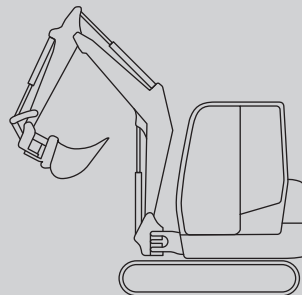
Geräte/Maschinen zum Einbringen der Rammfundamente sind beim Baugeräteverleih erhältlich. Alternativ kann auch der Garten- und Landschaftsbau beauftragt werden.



Rammmaschine



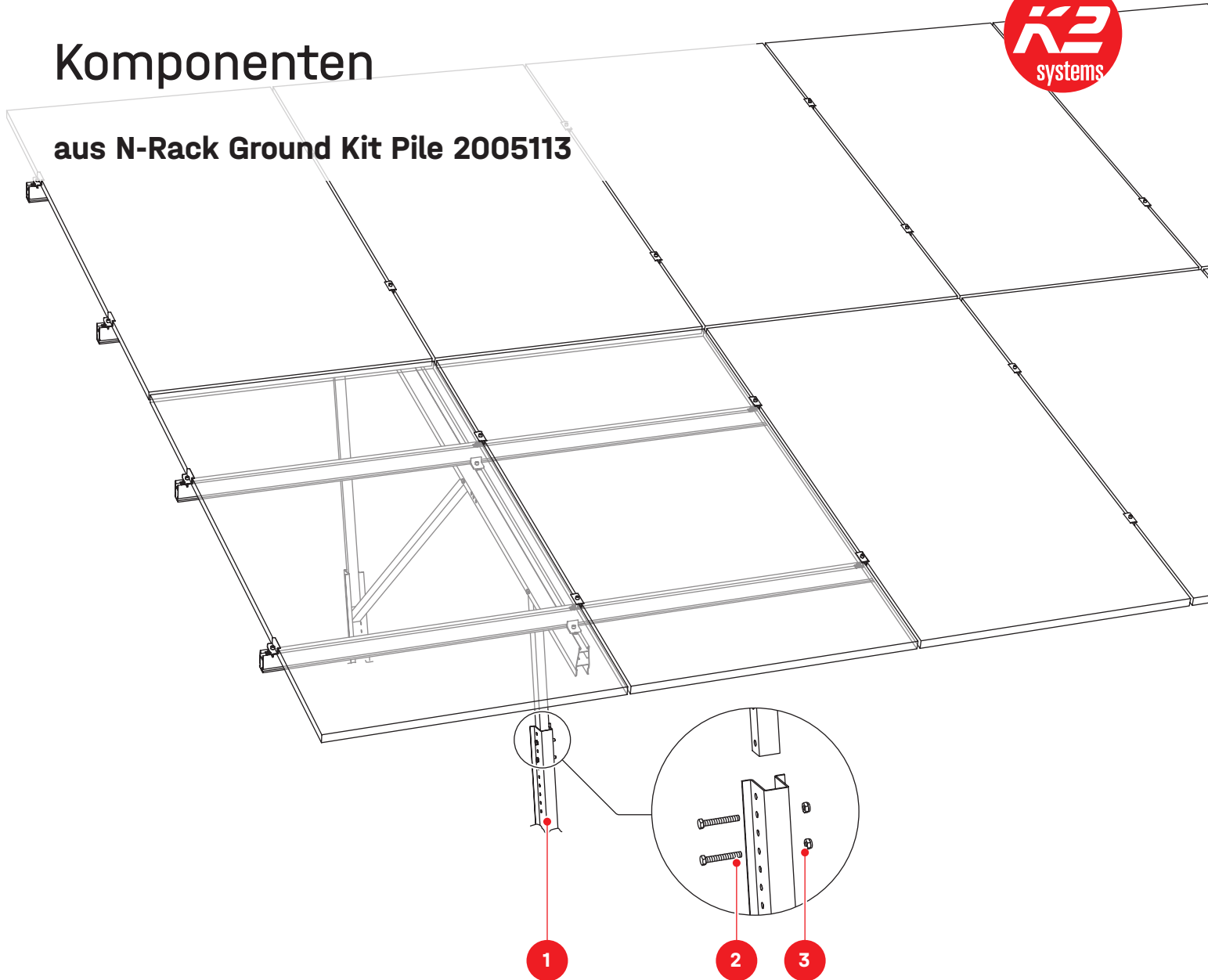
Pfahlramme zum Anbau an Mini-Bagger etc.



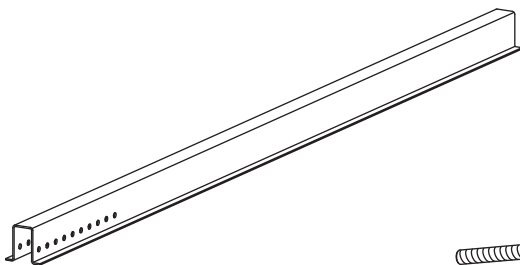
Bagger

# Komponenten

aus N-Rack Ground Kit Pile 2005113



## N-Rack Ground Kit Pile



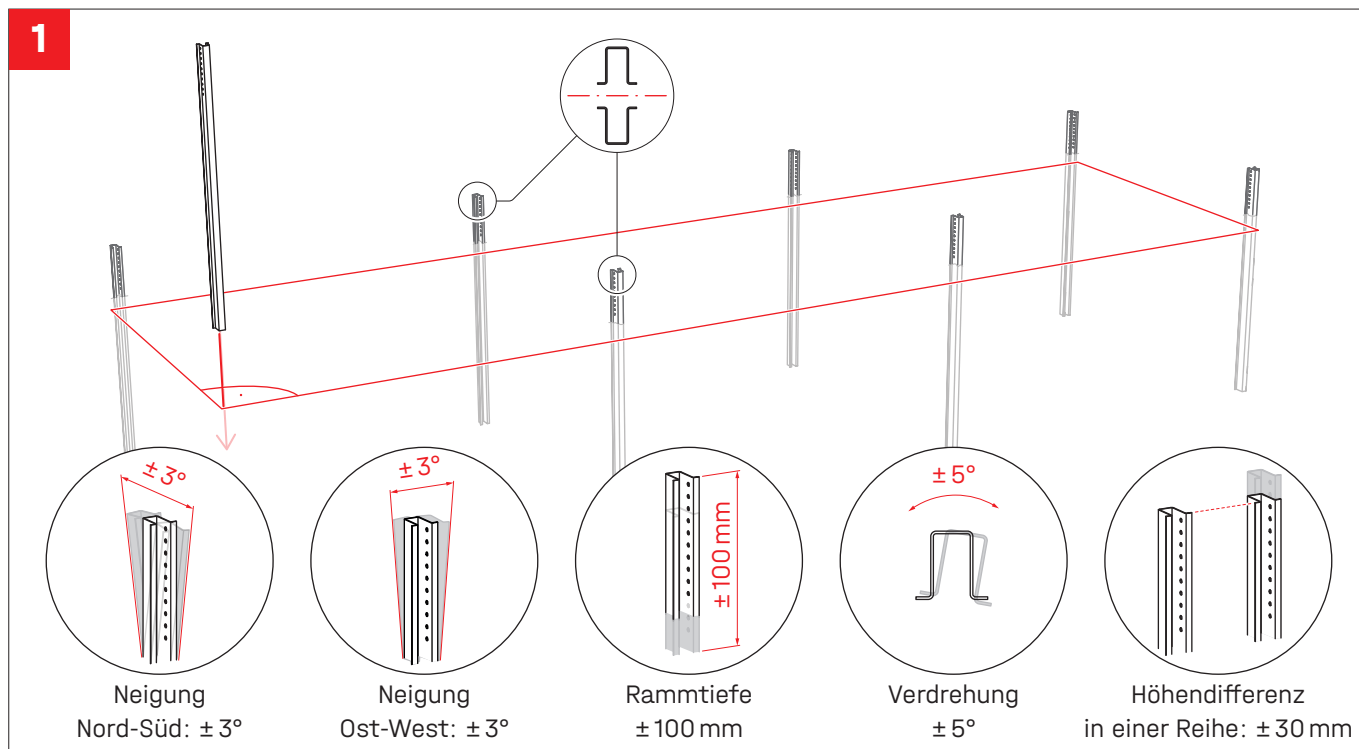
**1** 2005112  
Cap-Profile  
N-Rack 2,3 m

**2** 2004408  
Sechskantschraube  
mit Schaft M10 x 70

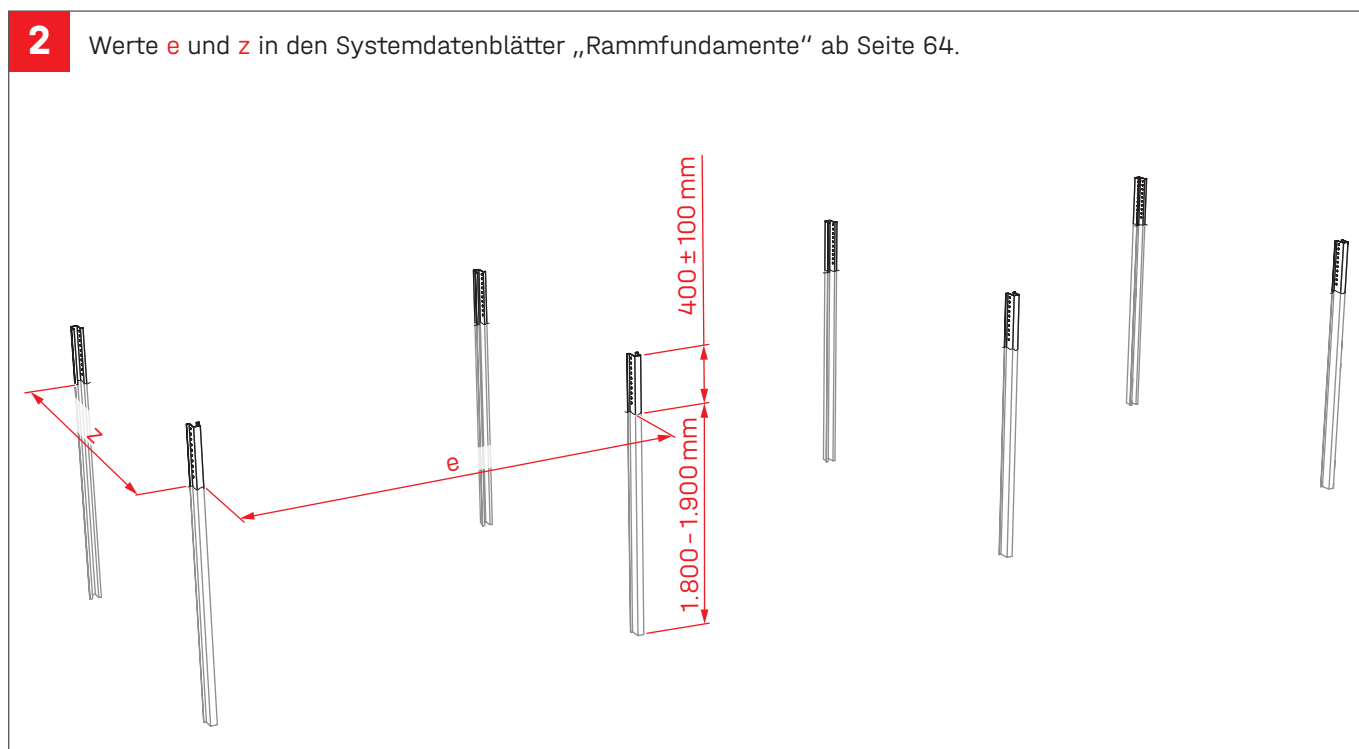
**3** 1002849  
Sechskant Sicherungs-  
mutter M10

# Montage

## Gründung

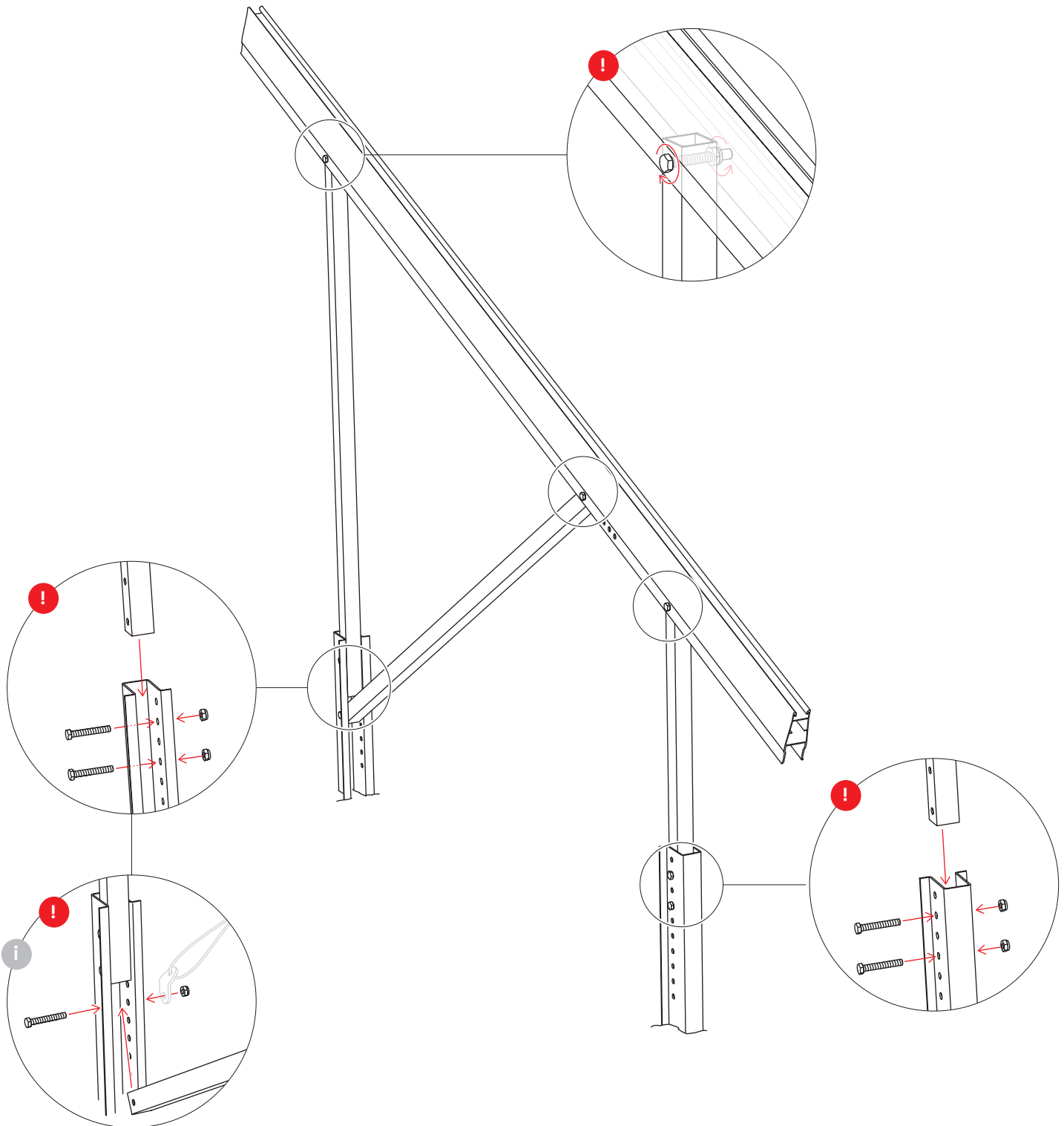


## Abstände



## Anbindung Stützen

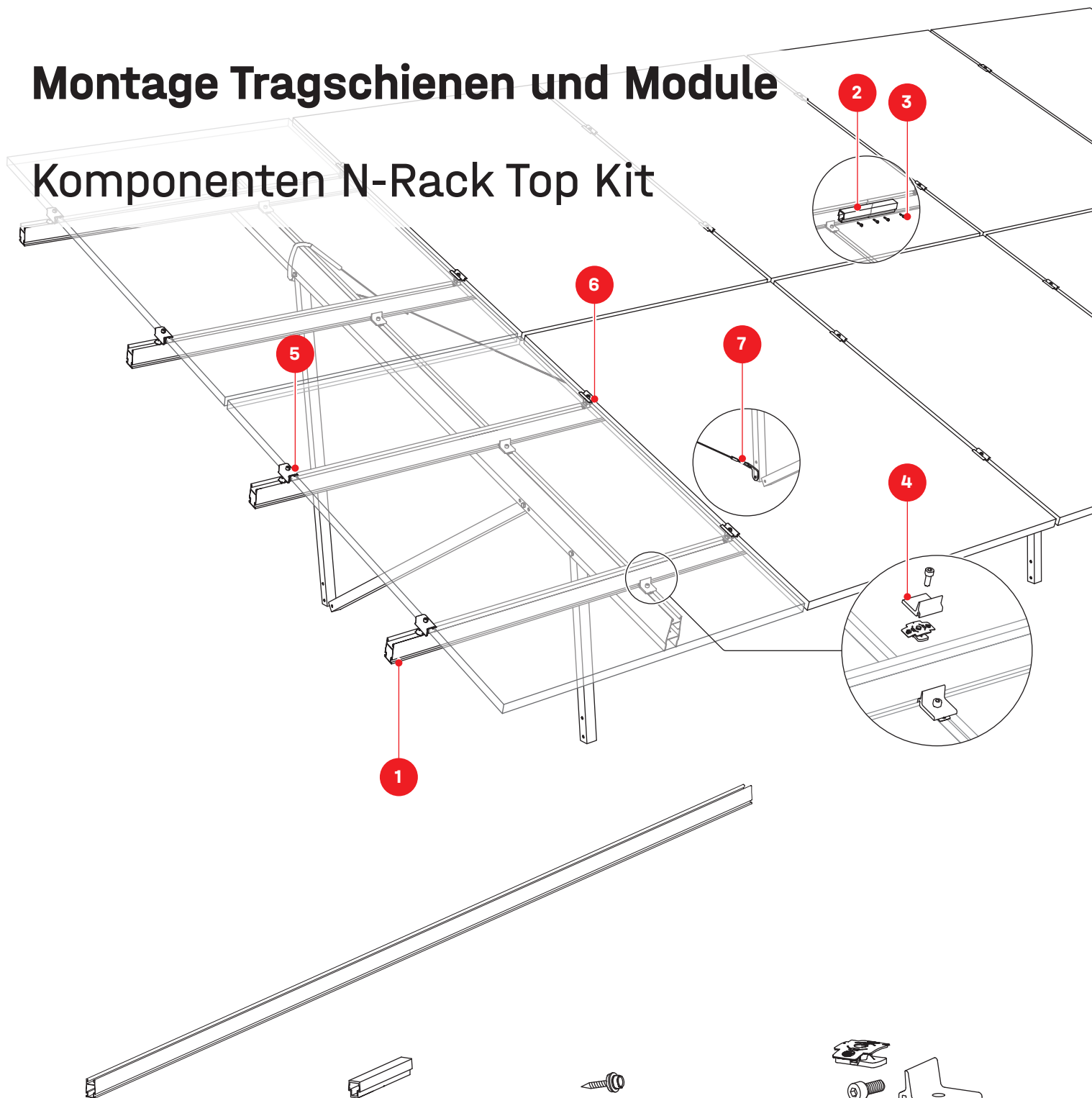
**3** ! 30 Nm



**i** Anbringung des Windverbandes: „Herstellung Windverband“ auf Seite 38.

# Montage Tragschienen und Module

## Komponenten N-Rack Top Kit



**1** Artikelnummer  
anlagenspezifisch,  
siehe S. 8  
**CrossRail 73**

**2** 2004409  
**CrossRail 73  
Connector**

**3** 1001051  
**Bohrschraube  
5,5 × 25**

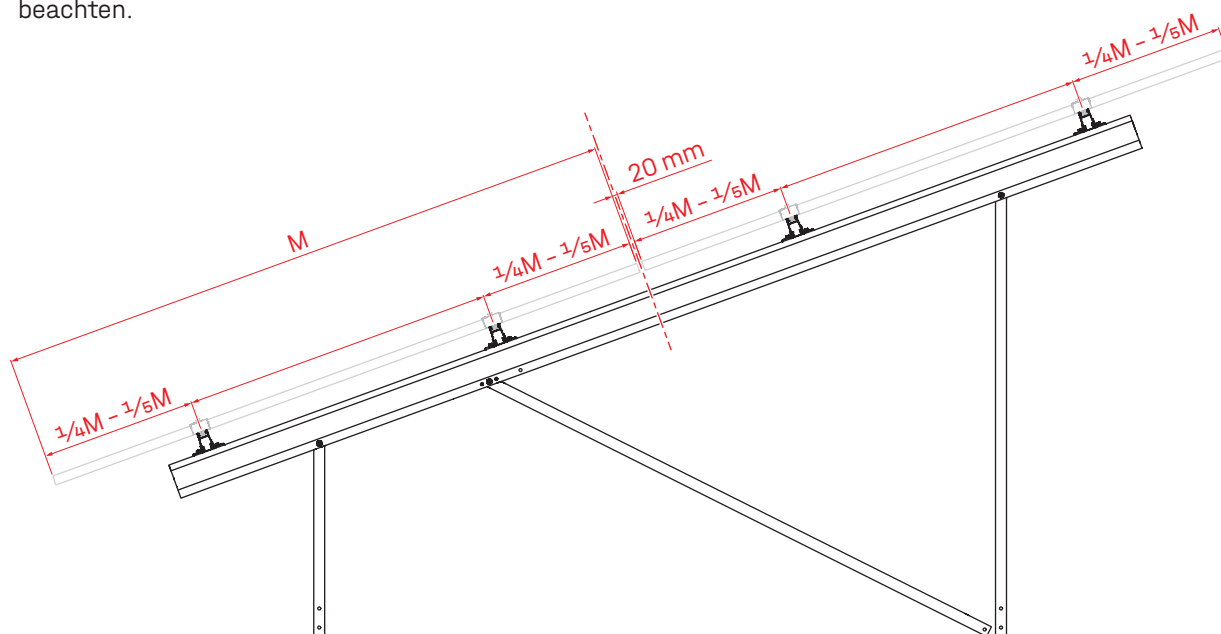
**4** 2003145  
**Climber 36/50 Set**

**5** 2004543  
**Modulendklemme  
K2 Clamp EC 25 - 40**

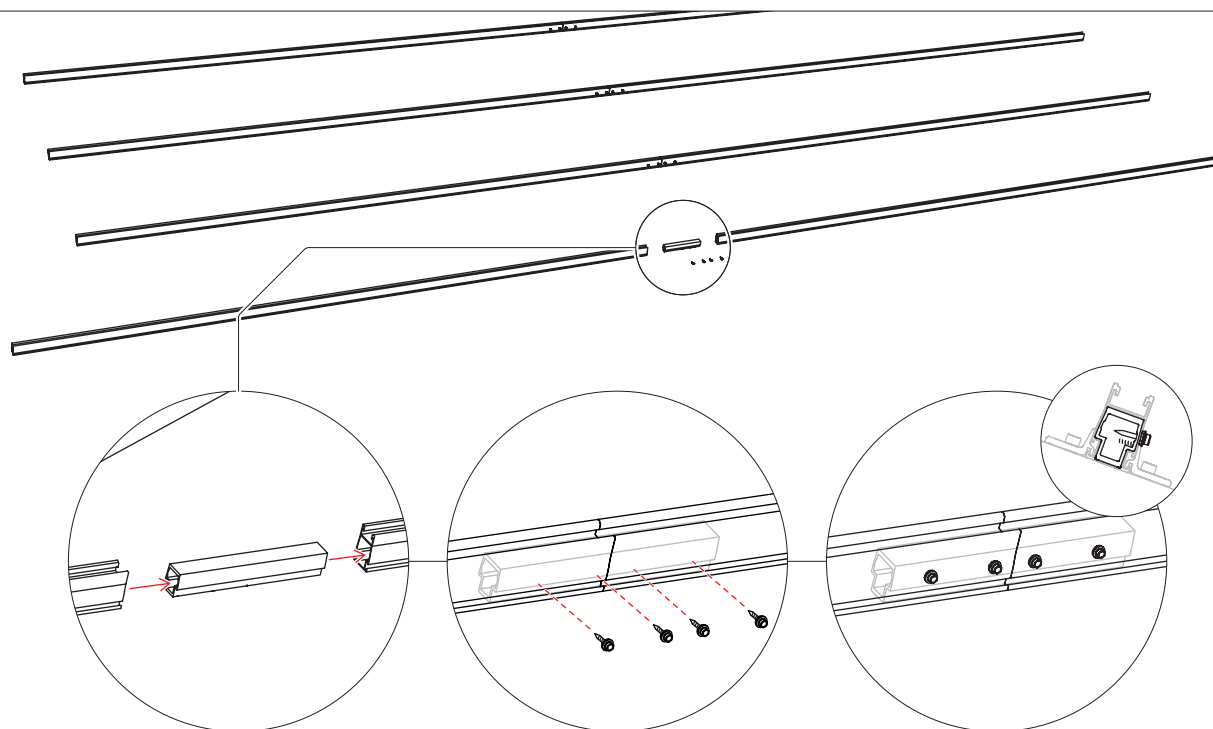
**6** 2004146  
**Modulmittelklemme  
K2 Clamp MC 25 - 40**

**7** 2004410  
**Windverband Set**

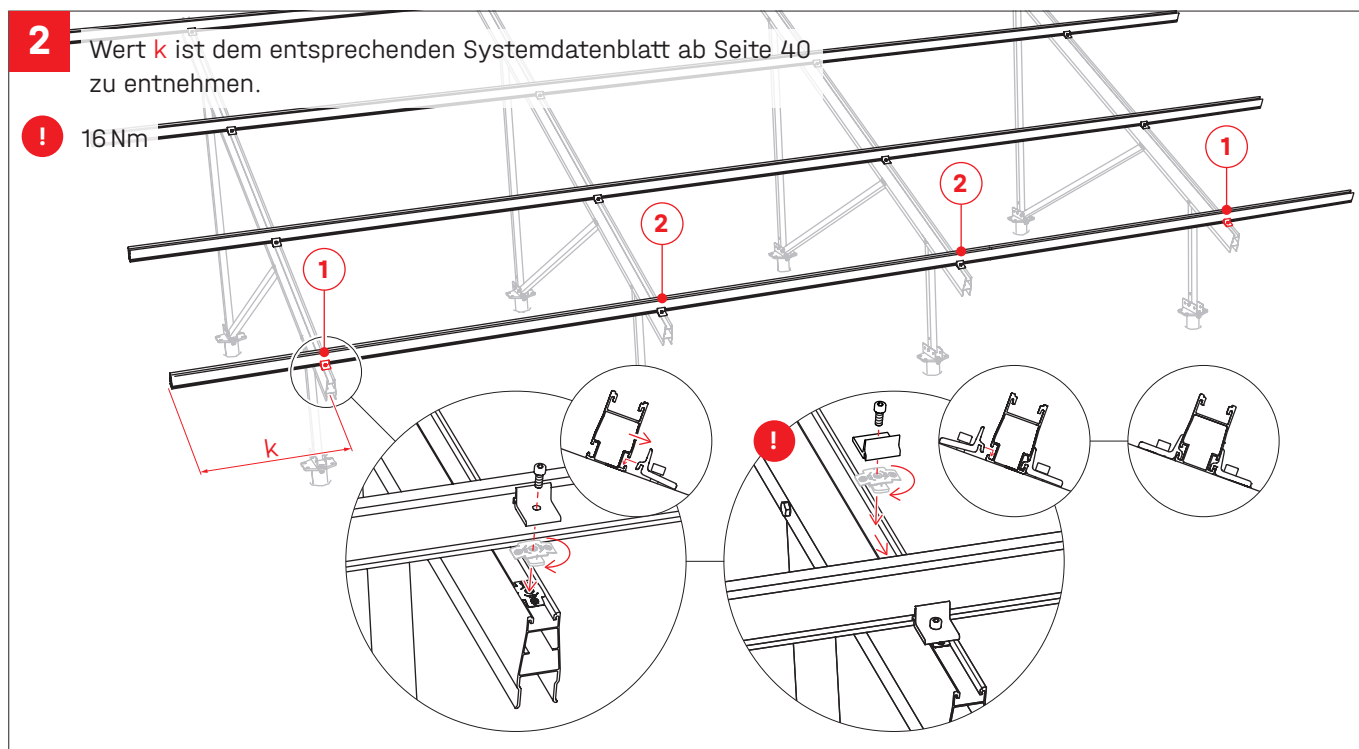
- 1a**  $M$  = Modullänge. Die Klemmenposition und die Module müssen symmetrisch zur Länge des Obergurts angeordnet werden. Herstellerangaben zum Klemmbereich der Module beachten.



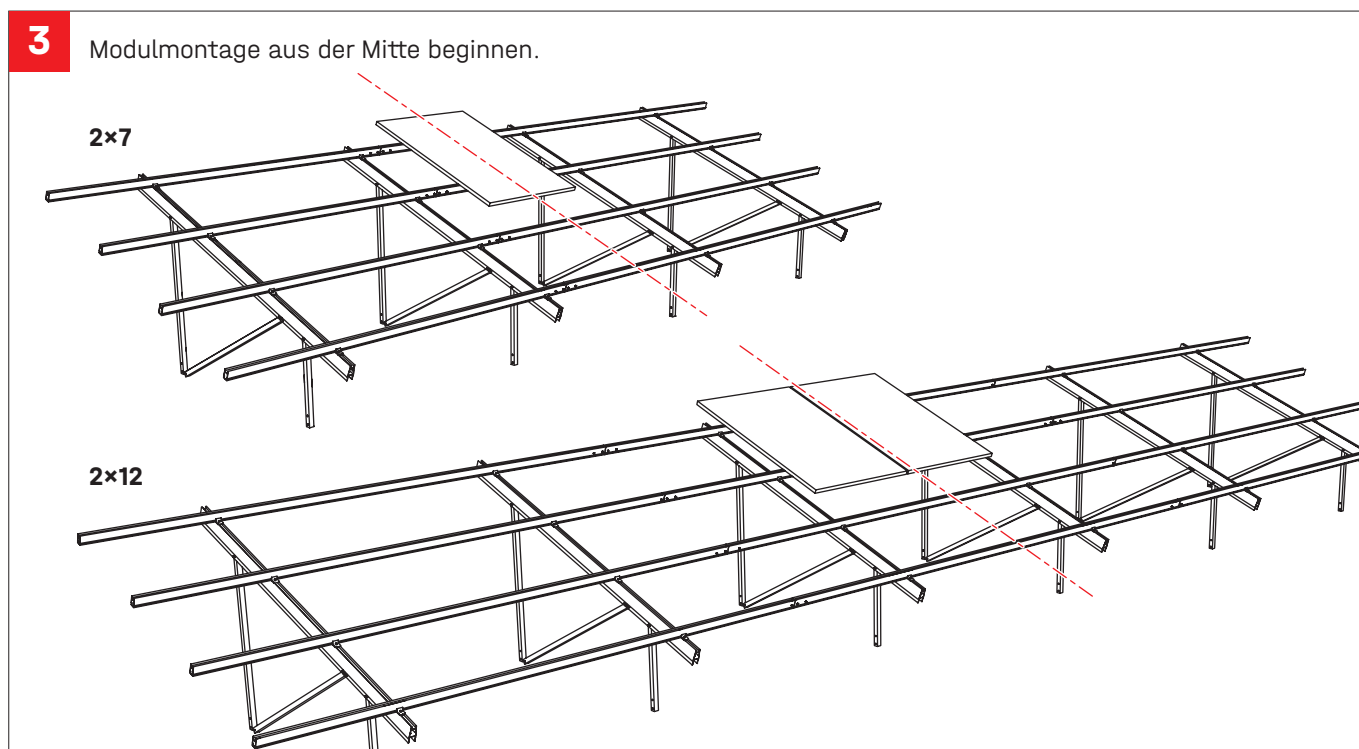
**1b**



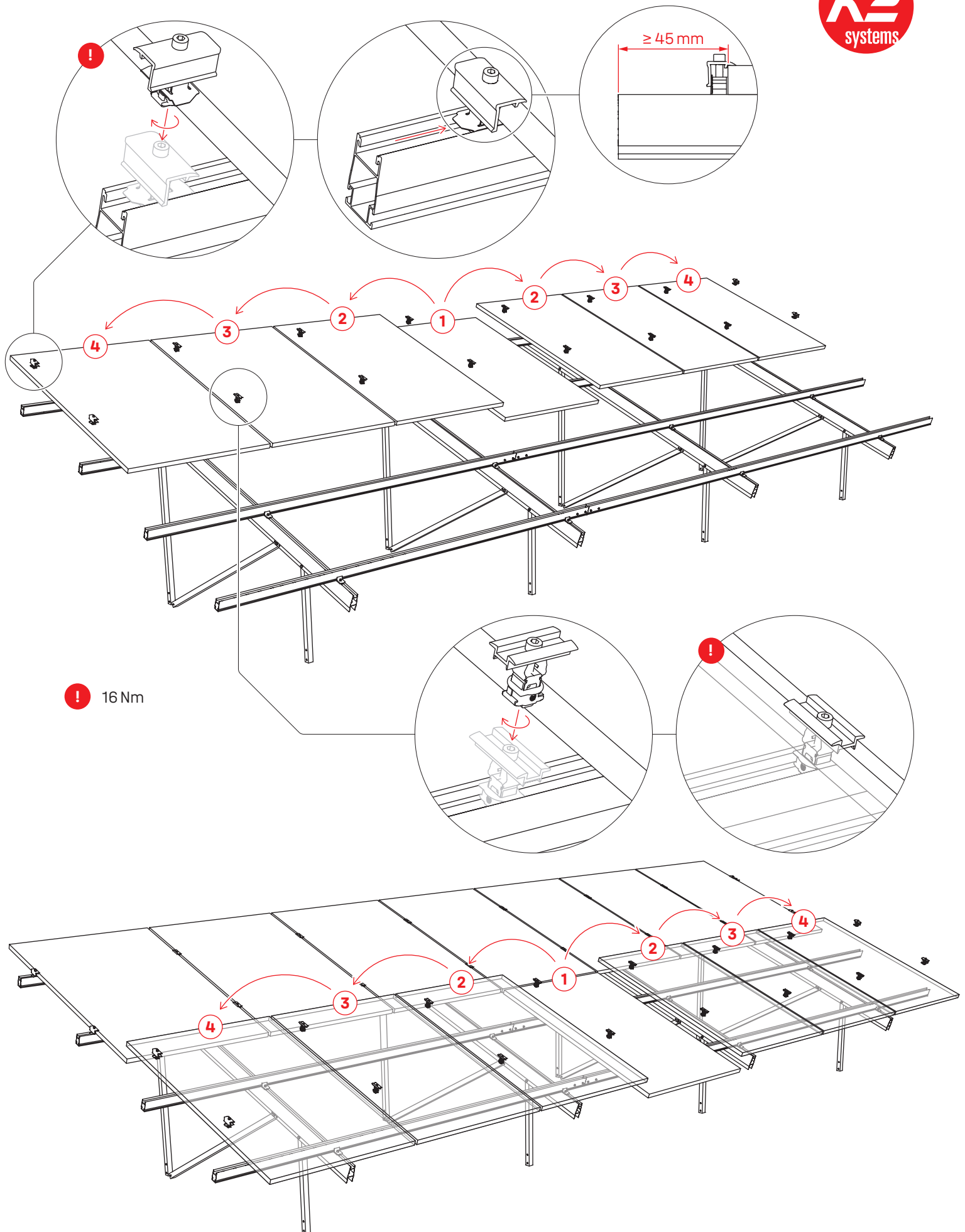
## Anbindung Tragschiene CrossRail



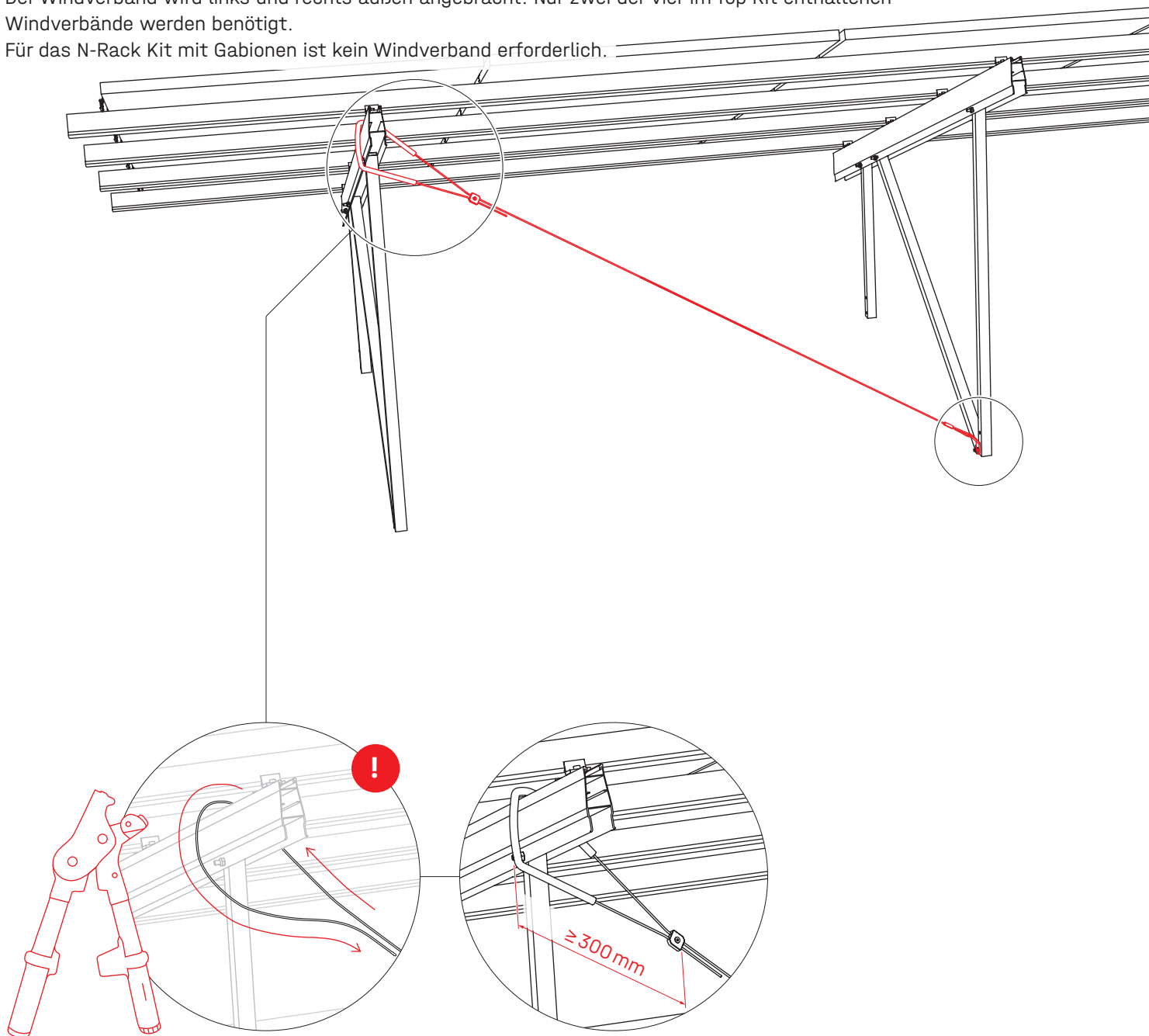
## Modulmontage



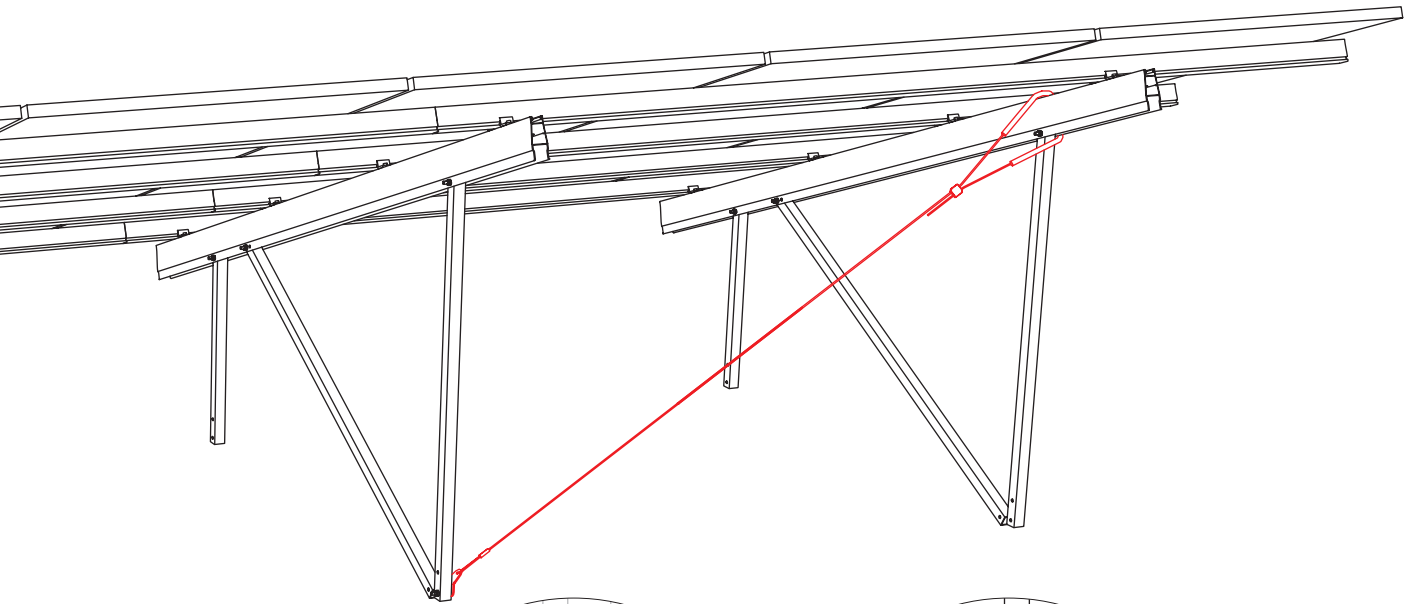




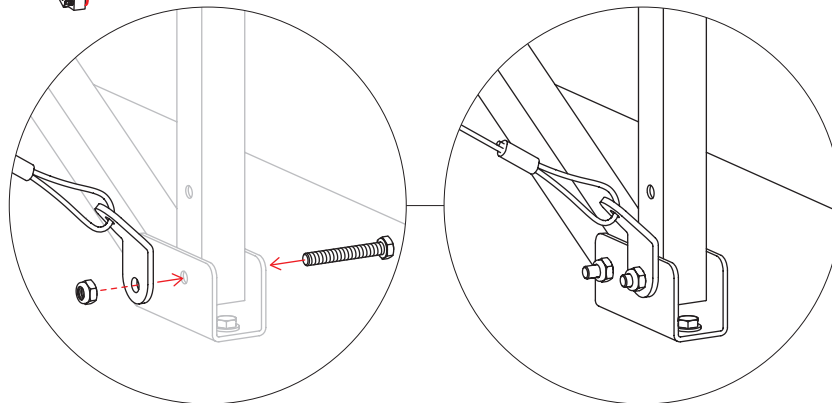
Für das N-Rack Kit mit Gabionen ist kein Windverband erforderlich.



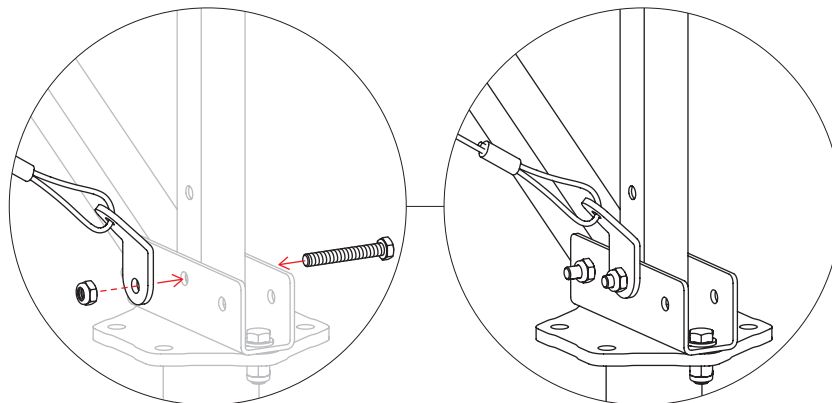
 Anwendungshinweise des Werkzeugherstellers beachten



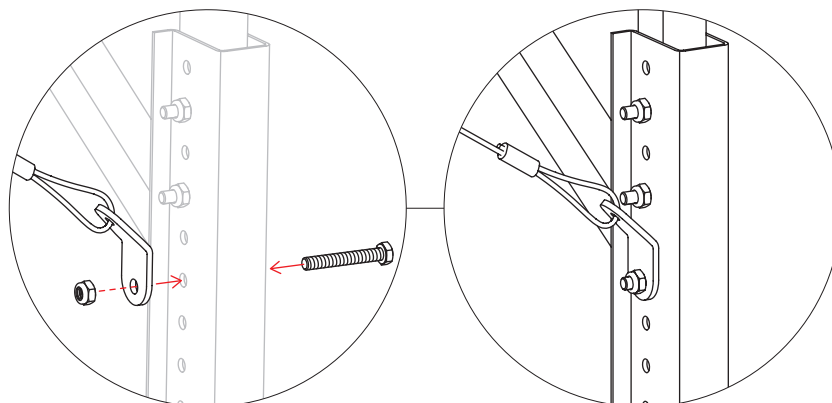
Betonfundamente



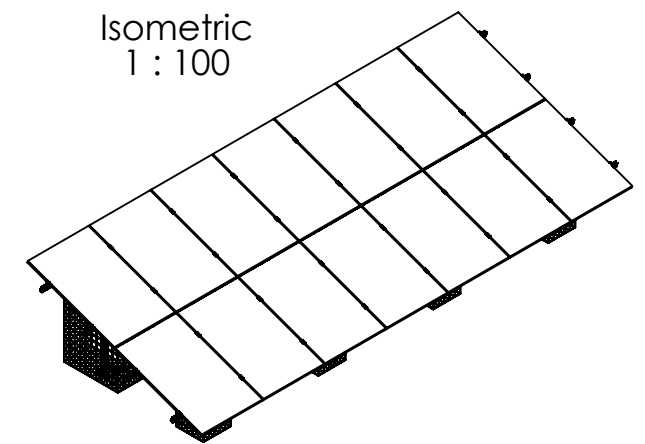
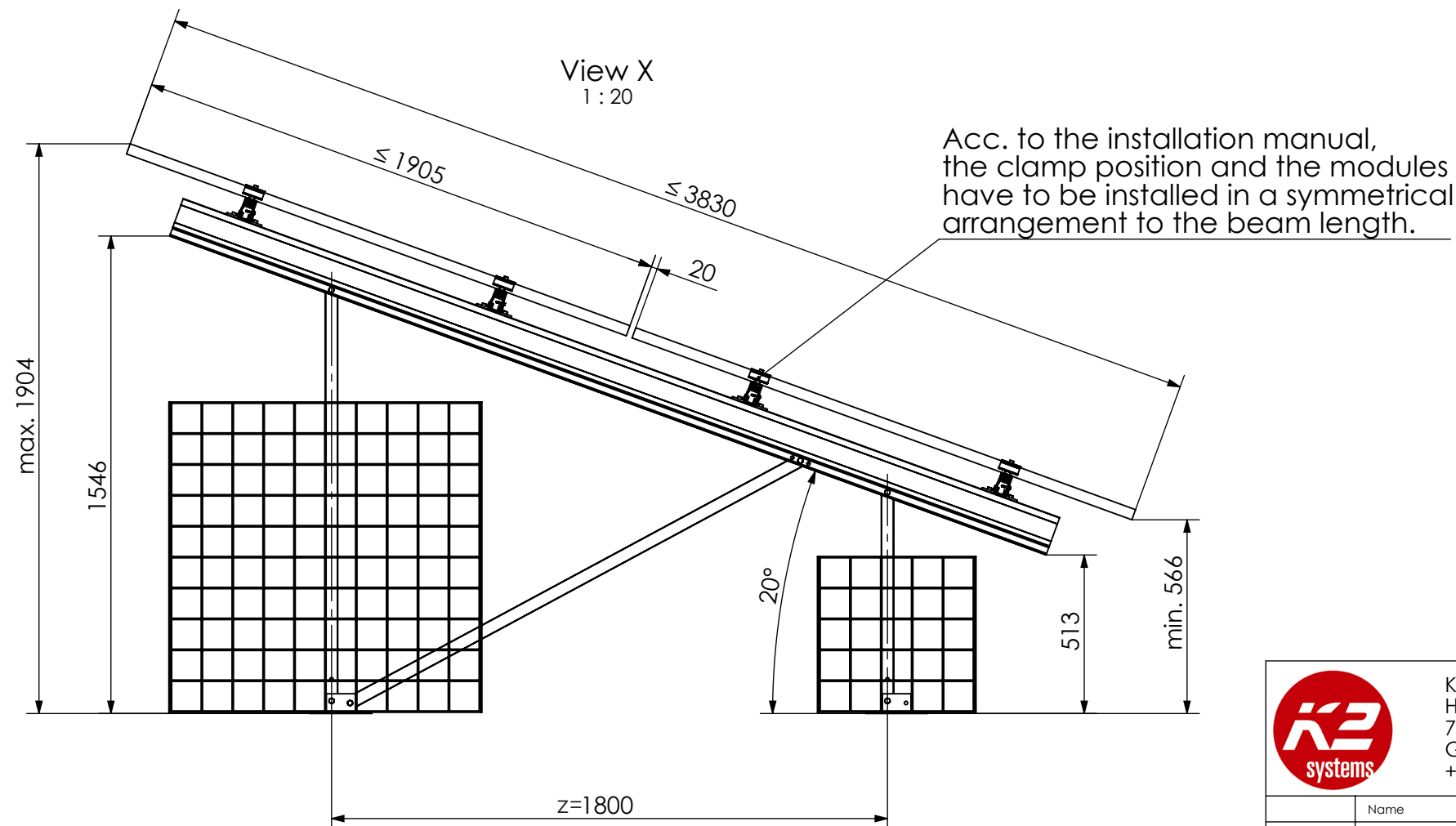
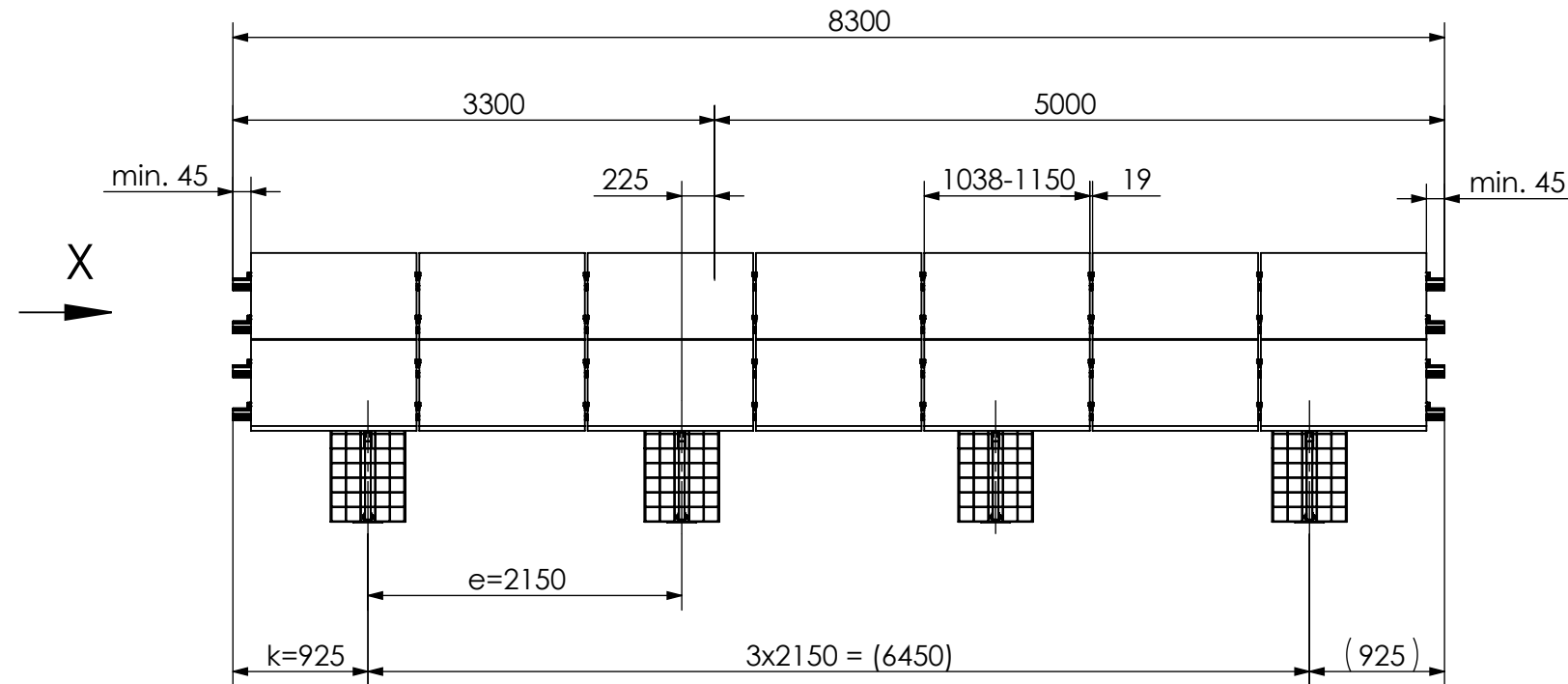
Schraubfundamente



Rammfundamente



## Gabion Kit 2x7 S



14 modules (2x7 Portrait)  
for module width  $\leq 1150$  mm

|                                                             |                                                                  |
|-------------------------------------------------------------|------------------------------------------------------------------|
| 12 modules (2x6 Portrait)<br>for module width >1150-1303 mm | Peak velocity qp[z]: 0.67kN/m²<br>Ground snow load Sk: 1.75kN/m² |
|-------------------------------------------------------------|------------------------------------------------------------------|

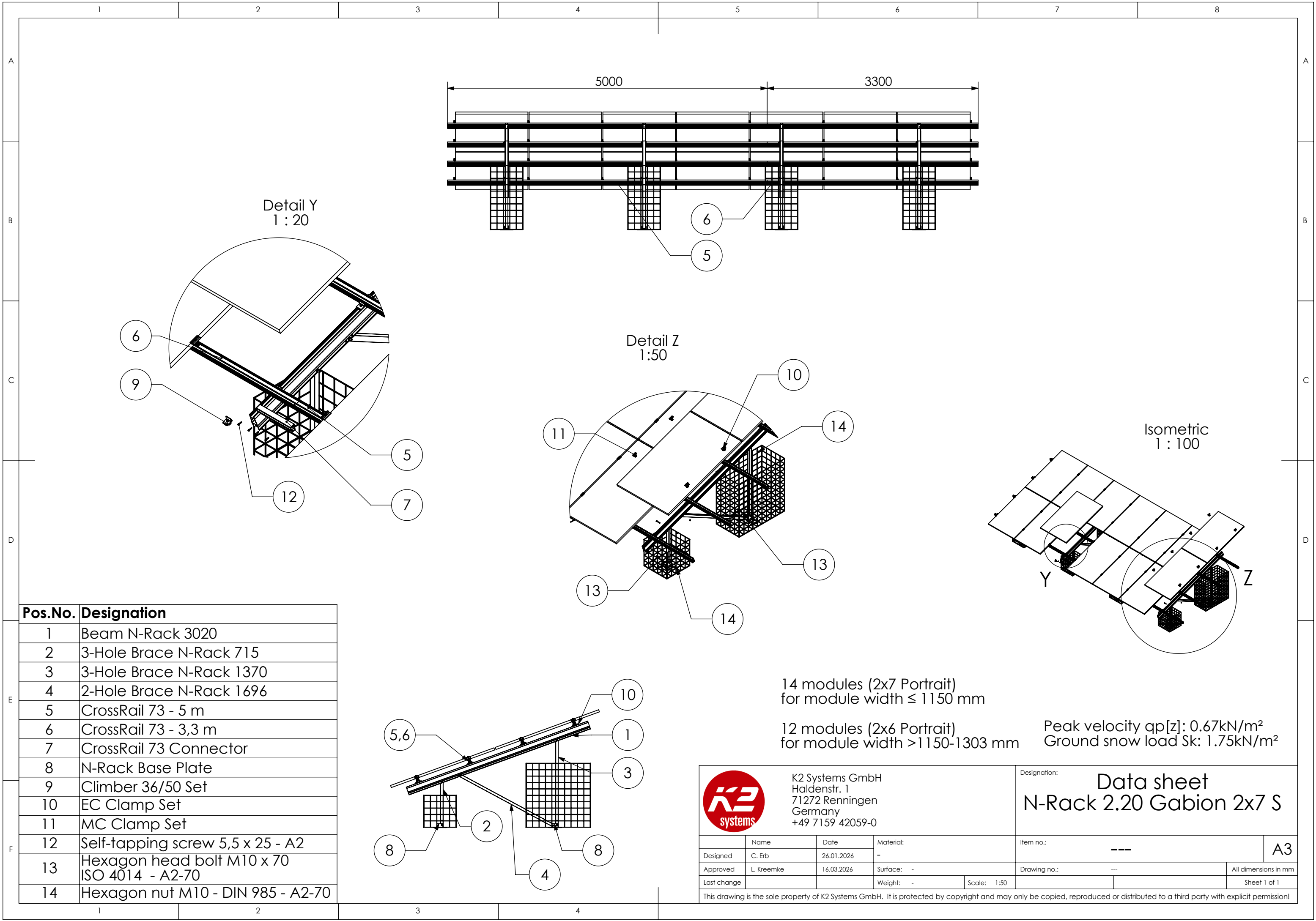


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|              |                                        |
|--------------|----------------------------------------|
| Designation: | Data sheet<br>N-Rack 2.20 Gabion 2x7 S |
|--------------|----------------------------------------|

|             |            |            |            |             |                  |  |                      |
|-------------|------------|------------|------------|-------------|------------------|--|----------------------|
|             | Name       | Date       | Material:  |             | Item no.: ----   |  | A3                   |
| Designed    | C. Erb     | 26.01.2026 | -          |             |                  |  |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - |             | Drawing no.: --- |  | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50 |                  |  | Sheet 1 of 1         |

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| Pos.No. | Designation                                    |
|---------|------------------------------------------------|
| 1       | Beam N-Rack 3020                               |
| 2       | 3-Hole Brace N-Rack 715                        |
| 3       | 3-Hole Brace N-Rack 1370                       |
| 4       | 2-Hole Brace N-Rack 1696                       |
| 5       | CrossRail 73 - 5 m                             |
| 6       | CrossRail 73 - 3,3 m                           |
| 7       | CrossRail 73 Connector                         |
| 8       | N-Rack Base Plate                              |
| 9       | Climber 36/50 Set                              |
| 10      | EC Clamp Set                                   |
| 11      | MC Clamp Set                                   |
| 12      | Self-tapping screw 5,5 x 25 - A2               |
| 13      | Hexagon head bolt M10 x 70<br>ISO 4014 - A2-70 |
| 14      | Hexagon nut M10 - DIN 985 - A2-70              |

14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width >1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>



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|             |            |            |            |
|-------------|------------|------------|------------|
|             | Name       | Date       | Material:  |
| Designed    | C. Erb     | 26.01.2026 | -          |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - |
| Last change |            |            | Weight: -  |

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Designation:

Data sheet  
N-Rack 2.20 Gabion 2x7 S

Item no.: ---

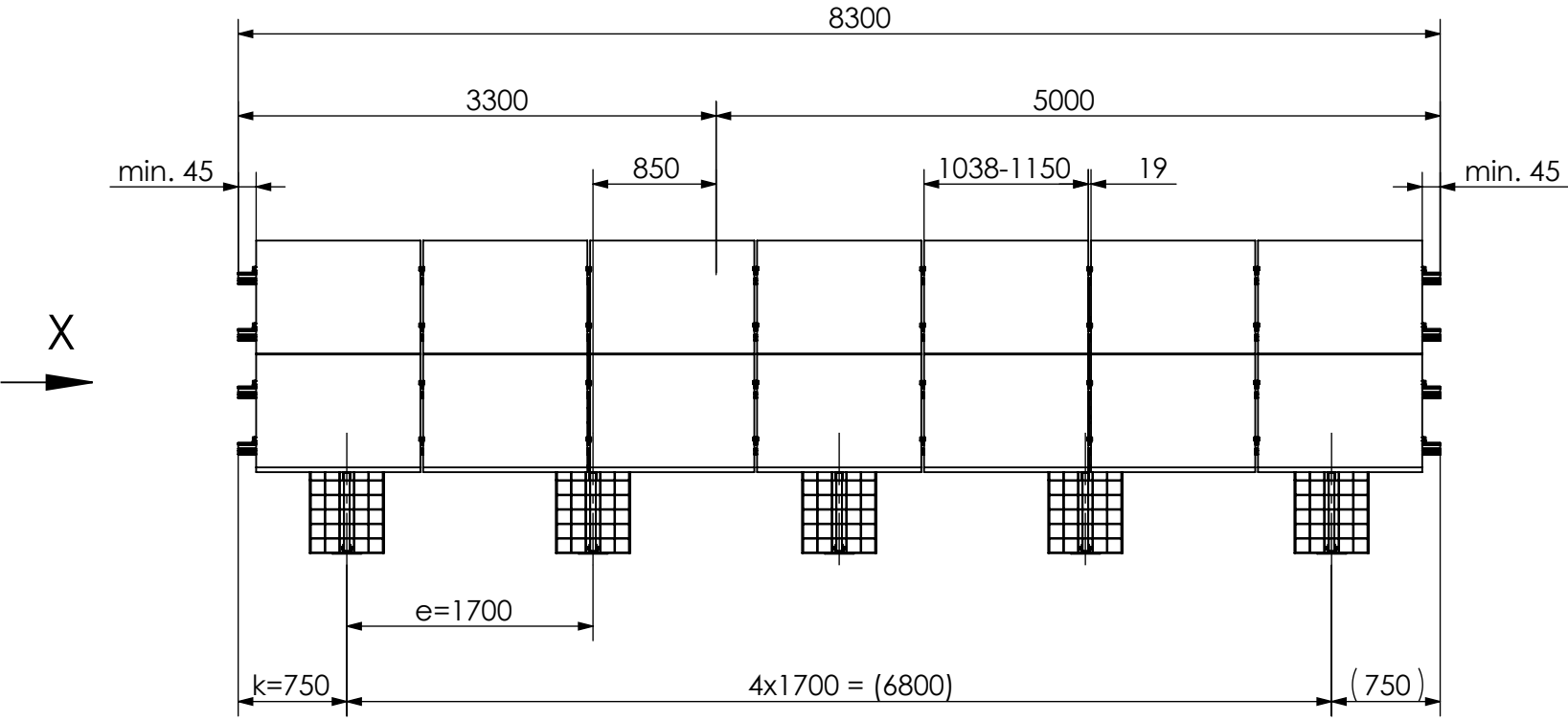
Drawing no.: ---

A3

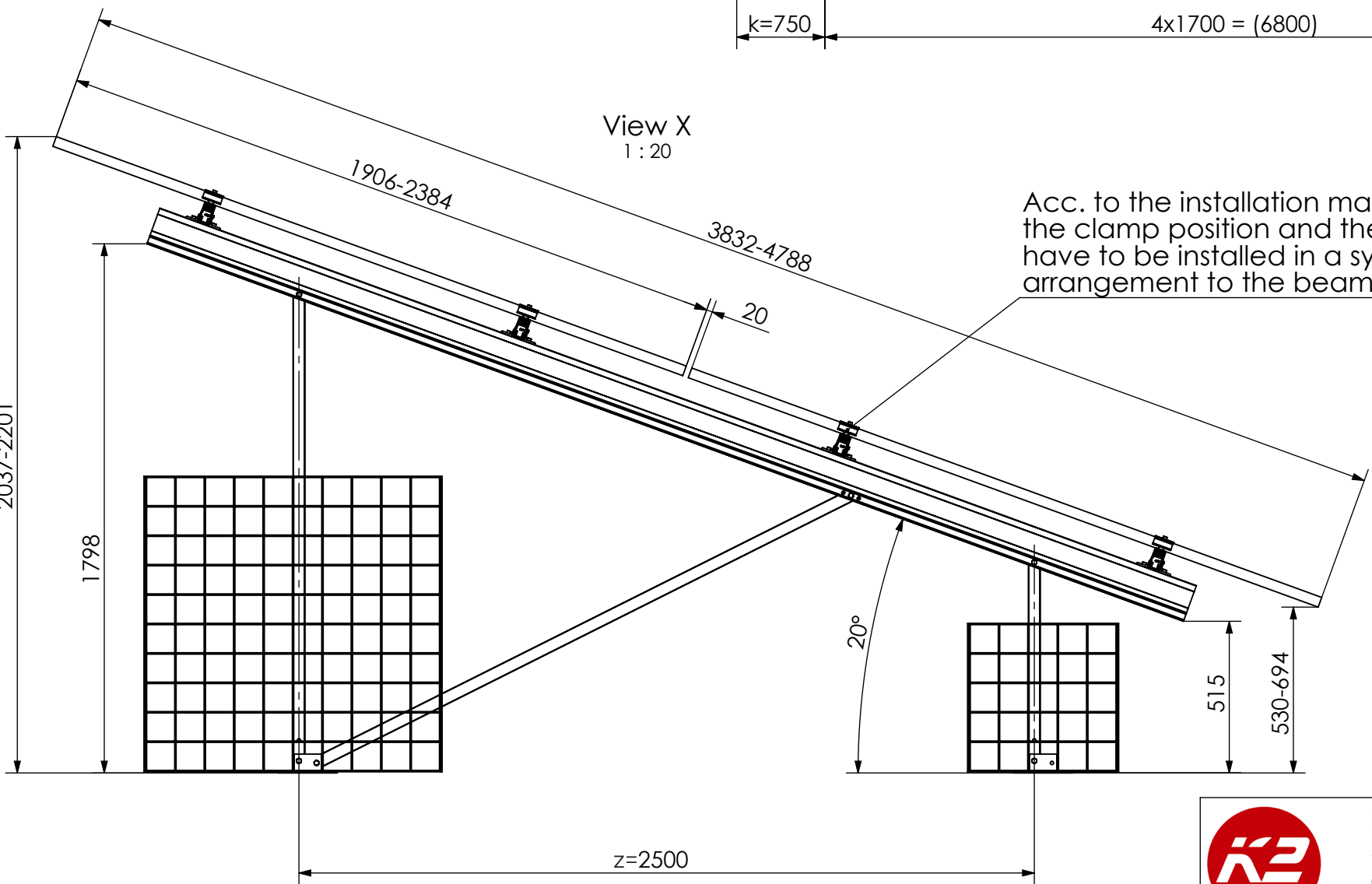
All dimensions in mm

Sheet 1 of 1

Gabion Kit 2x7 L

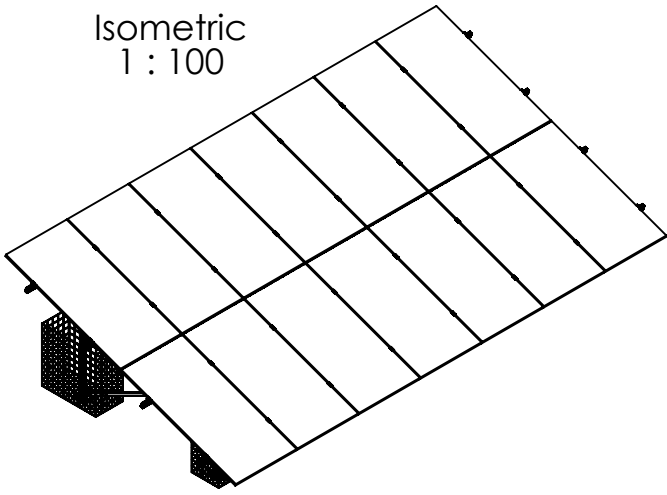


View X  
1 : 20



Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.

Isometric  
1 : 100



14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width >1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>



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Designation: Data sheet  
N-Rack 2.20 Gabion 2x7 L

|             | Name       | Date       | Material:  | Item no.:    | A3                   |
|-------------|------------|------------|------------|--------------|----------------------|
| Designed    | C. Erb     | 26.01.2026 | -          | ---          |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50  | Sheet 1 of 1         |

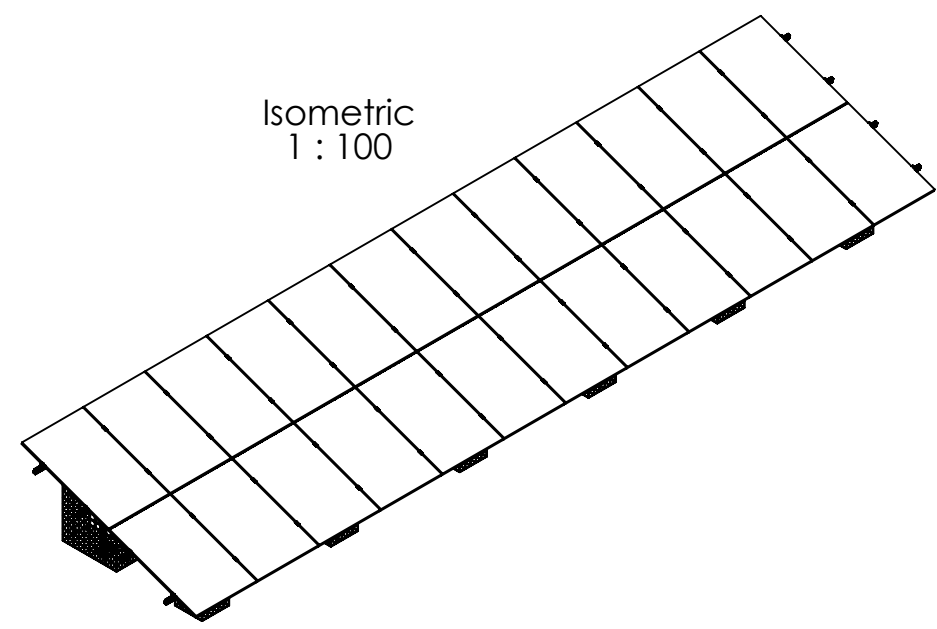
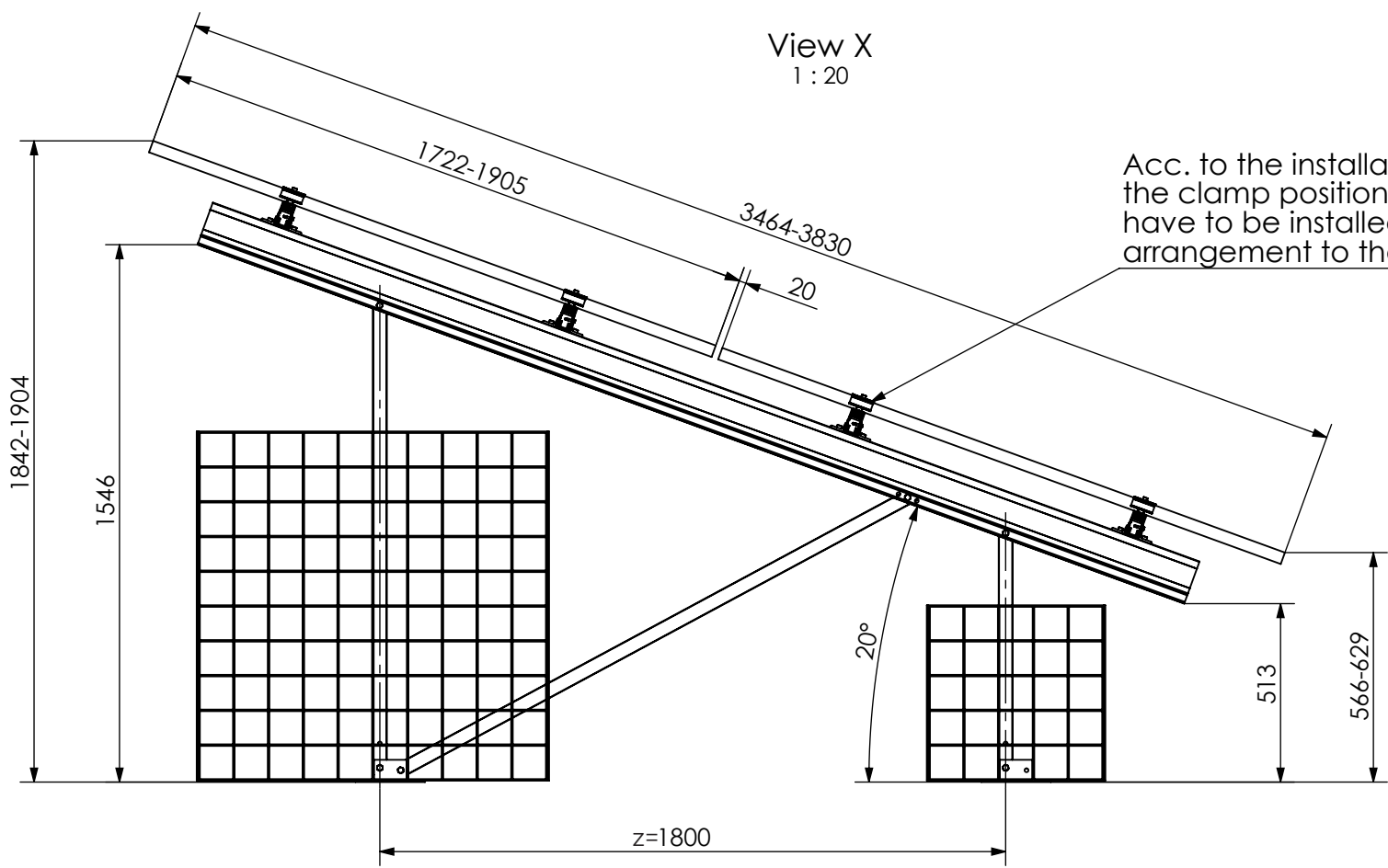
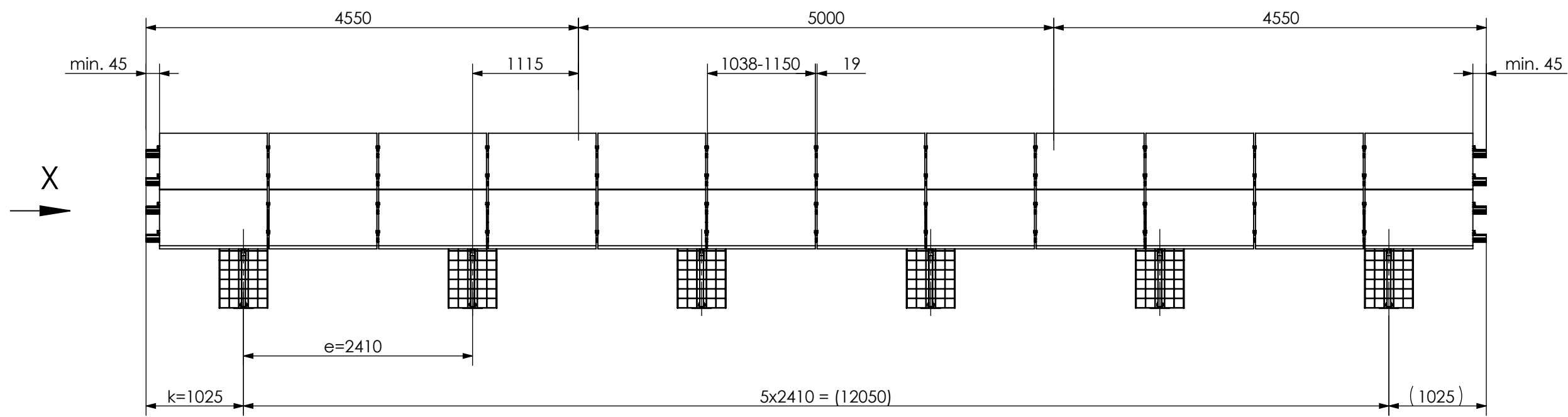
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|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

|                                                                                                                                                                                               |            |            |            |                                                                    |                      |  |                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|--------------------------------------------------------------------|----------------------|--|----------------------|
|  <div> K2 Systems GmbH<br/> Haldenstr. 1<br/> 71272 Renningen<br/> Germany<br/> +49 71 59 42059-0 </div> |            |            |            | Designation: <div> Data sheet<br/> N-Rack 2.20 Gabion 2x7 L </div> |                      |  |                      |
|                                                                                                                                                                                               | Name       | Date       | Material:  |                                                                    | Item no.:<br><br>--- |  | A3                   |
| Designed                                                                                                                                                                                      | C. Erb     | 26.01.2026 |            |                                                                    |                      |  |                      |
| Approved                                                                                                                                                                                      | L. Kreemke | 16.03.2026 | Surface: - |                                                                    | Drawing no.: ---     |  | All dimensions in mm |
| Last change                                                                                                                                                                                   |            |            | Weight: -  | Scale: 1:50                                                        |                      |  | Sheet 1 of 1         |
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Gabion Kit 2x12 S



Acc. to the installation manual, the clamp position and the modules have to be installed in a symmetrical arrangement to the beam length.

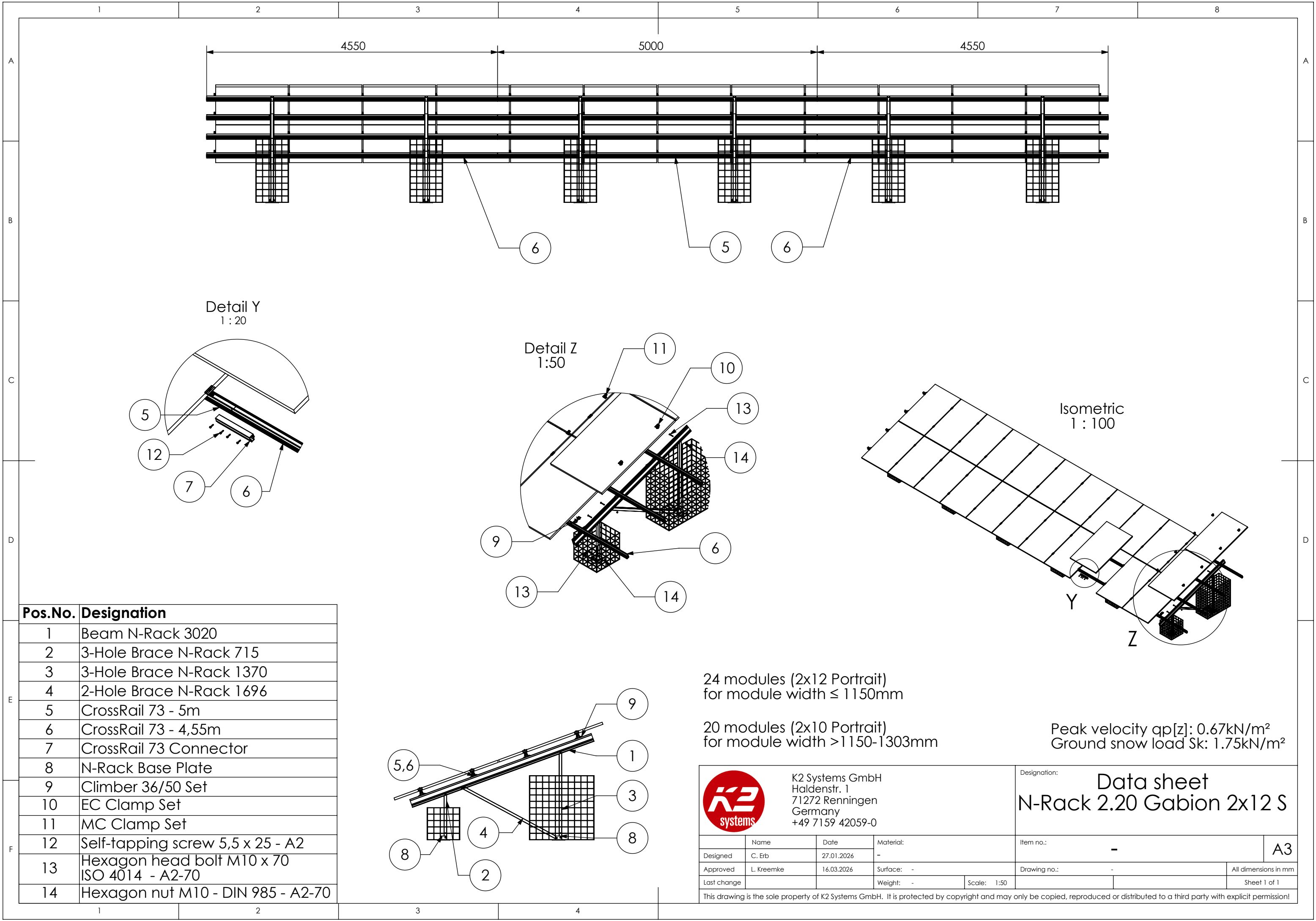
24 modules (2x12 Portrait)  
for module width ≤ 1150mm

20 modules (2x10 Portrait)  
for module width >1150-1303mm

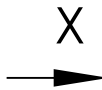
Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²

|                                                                                                                                                                                        |            |            |            |                                                              |                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|--------------------------------------------------------------|----------------------|
|  <div>K2 Systems GmbH<br/>Haldenstr. 1<br/>71272 Renningen<br/>Germany<br/>+49 7159 42059-0</div> |            |            |            | Designation: <b>Data sheet<br/>N-Rack 2.20 Gabion 2x12 S</b> |                      |
|                                                                                                                                                                                        | Name       | Date       | Material:  | Item no.:                                                    | A3                   |
| Designed                                                                                                                                                                               | C. Erb     | 27.01.2026 | -          |                                                              |                      |
| Approved                                                                                                                                                                               | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.:                                                 | All dimensions in mm |
| Last change                                                                                                                                                                            |            |            | Weight: -  | Scale: 1:50                                                  | Sheet 1 of 1         |
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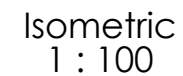




min. 45



Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.

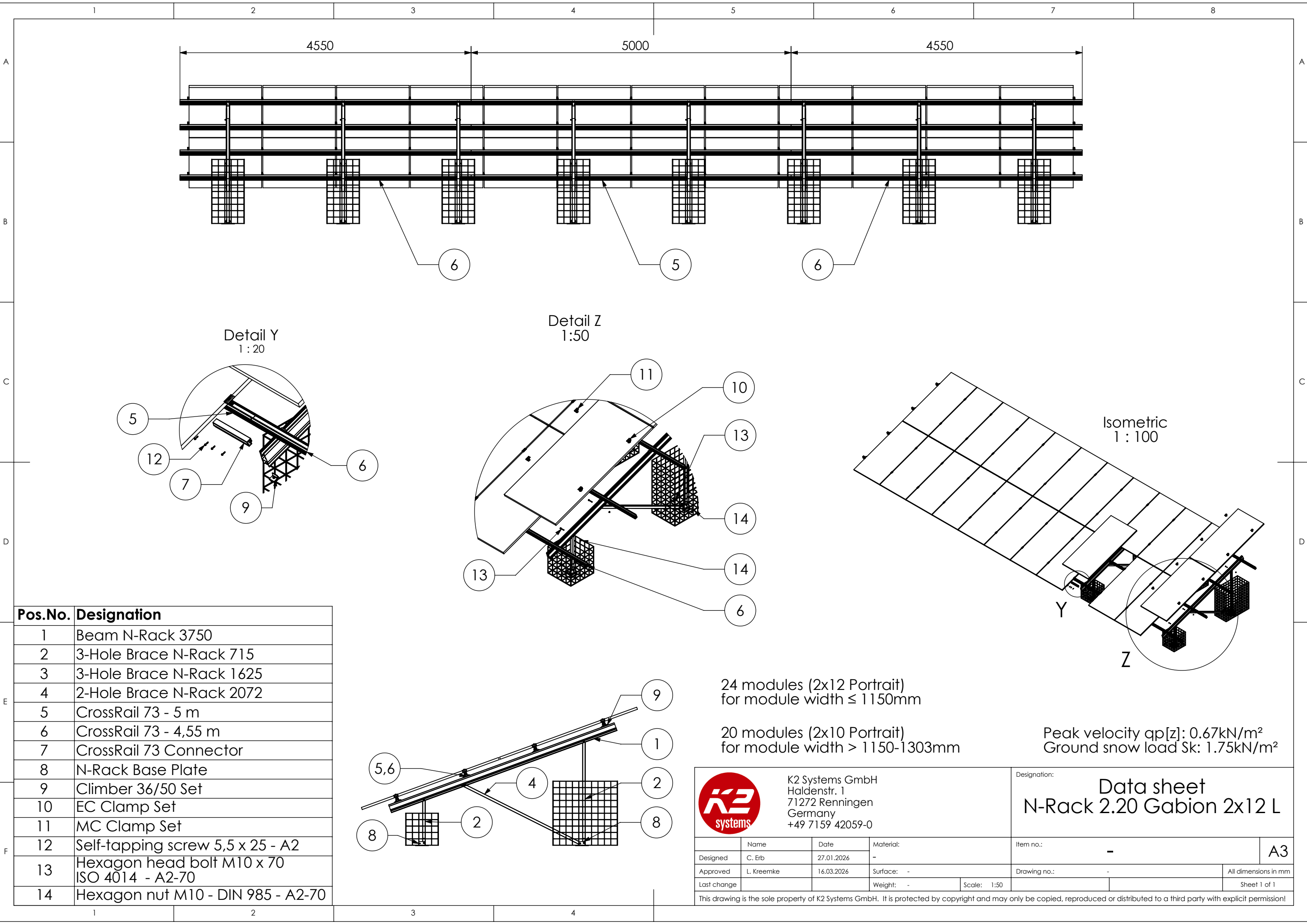


Peak velocity qp[z]: 0.67kN/m<sup>2</sup>  
Ground snow load Sk: 1.75kN/m<sup>2</sup>



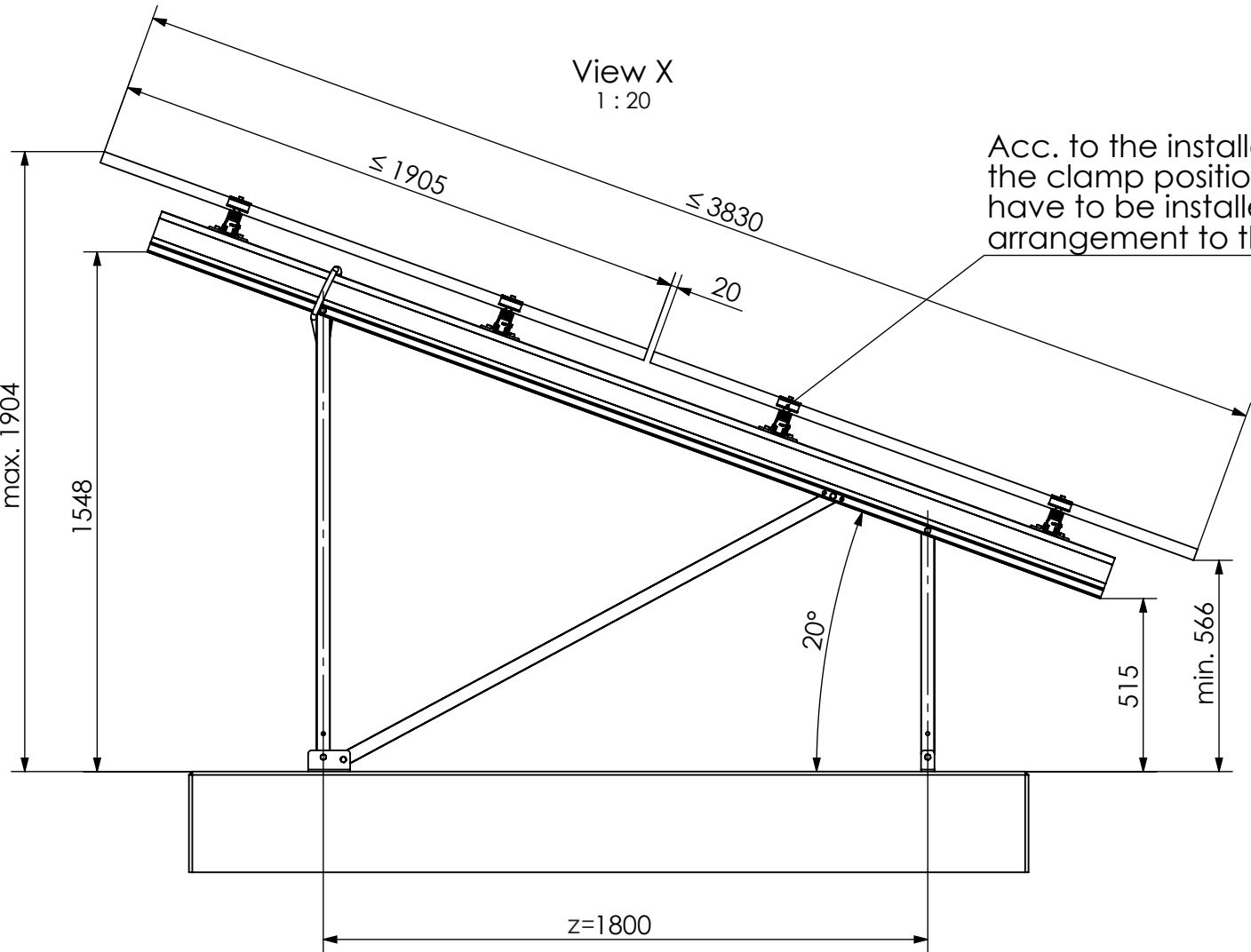
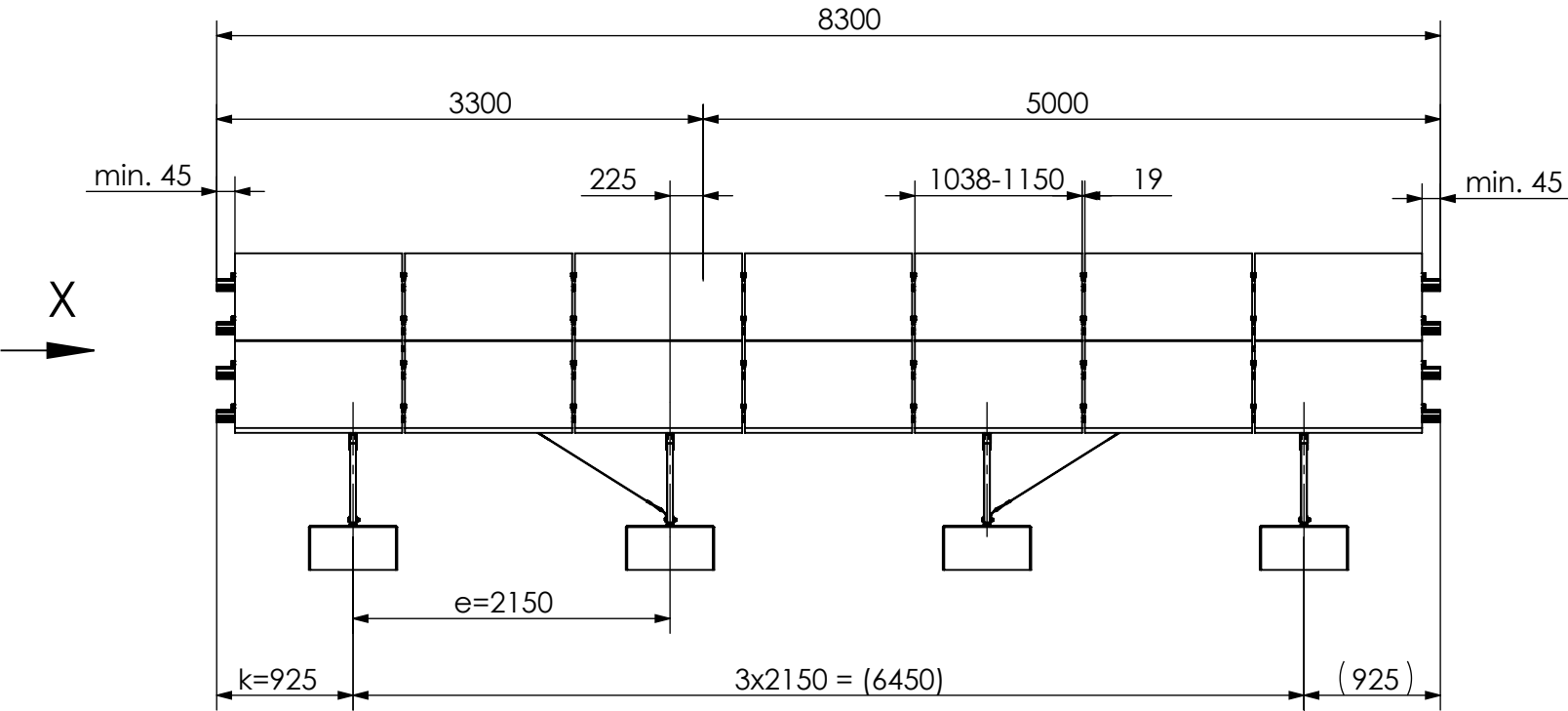
|              |                                         |
|--------------|-----------------------------------------|
| Designation: | Data sheet<br>N-Rack 2.20 Gabion 2x12 L |
|--------------|-----------------------------------------|

46

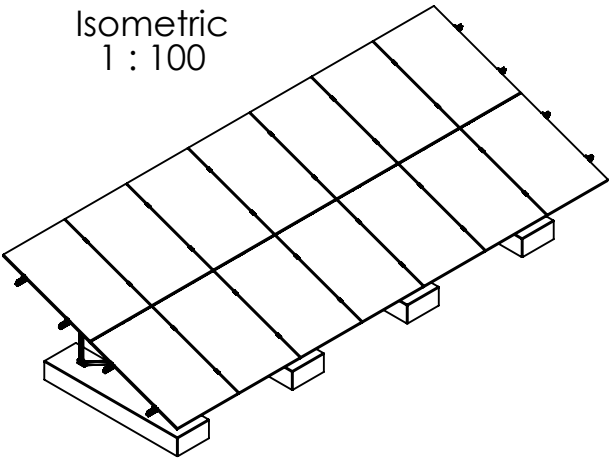


Betonfundamente

Concrete Kit 2x7 S



Acc. to the installation manual, the clamp position and the modules have to be installed in a symmetrical arrangement to the beam length.



14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width >1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>

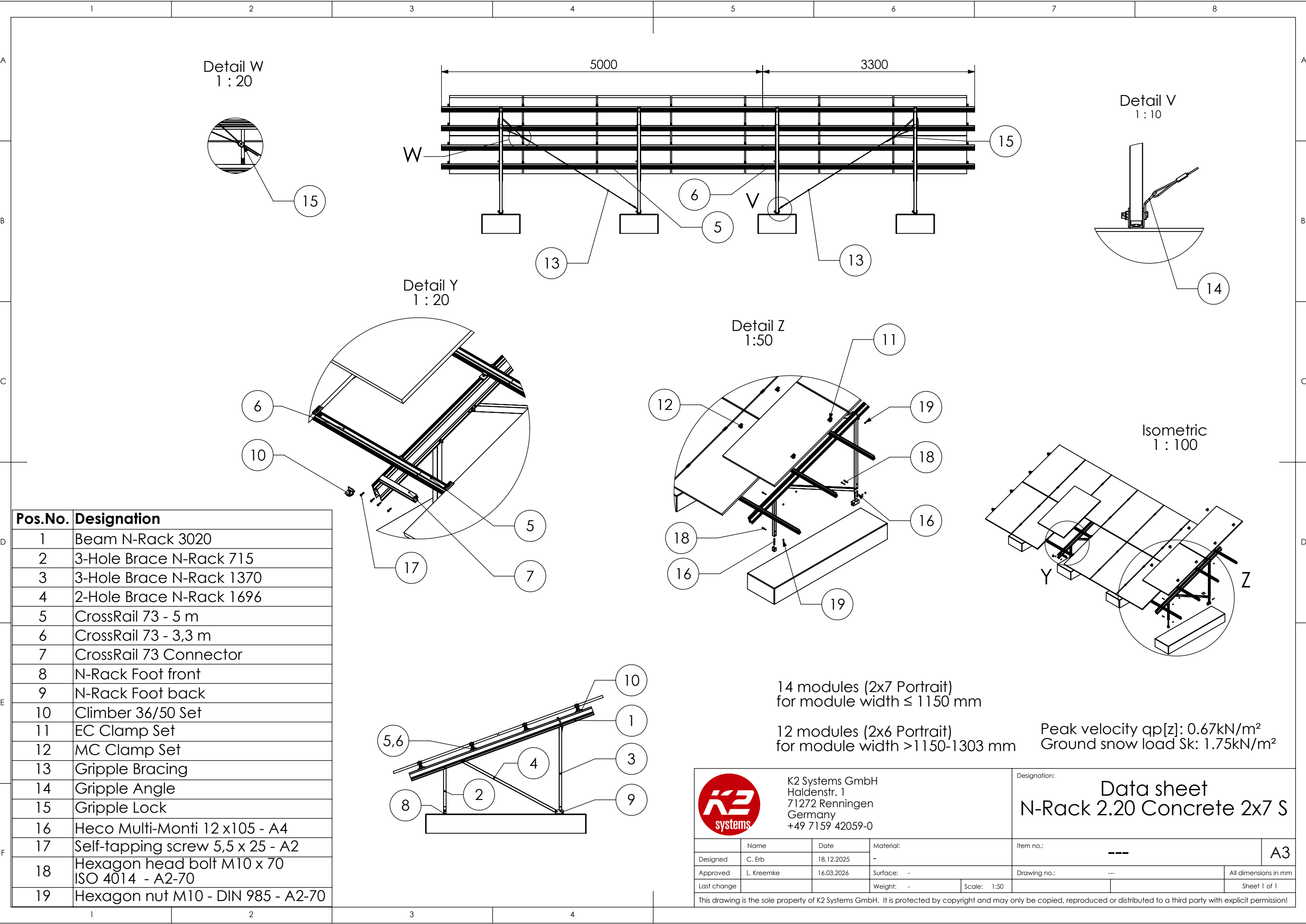


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Designation:  
Data sheet  
N-Rack 2.20 Concrete 2x7 S

|             | Name       | Date       | Material:  | Item no.:        | A3                   |
|-------------|------------|------------|------------|------------------|----------------------|
| Designed    | C. Erb     | 18.12.2025 | -          | ---              |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: --- | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50      | Sheet 1 of 1         |

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Concrete Kit 2x7 L

8300

3300 5000

min. 45

850 1038-1150 19

min. 45

X

e=1700

k=750

4x1700 = (6800)

(750)

View X  
1 : 20

1906-2384

3832-4788

20

20°

517

530-694

1800

2037-2201

z=2500

Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.

Isometric  
1 : 100

14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width > 1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>

K2  
systems

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Designation:  
**Data sheet  
N-Rack 2.20 Concrete 2x7 L**

|             | Name       | Date       | Material:  | Item no.:        | A3 |
|-------------|------------|------------|------------|------------------|----|
| Designed    | C. Erb     | 16.12.2025 | -          | ---              |    |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: --- |    |
| Last change |            |            | Weight: -  | Scale: 1:50      |    |

Sheet 1 of 1

All dimensions in mm

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50

Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.

Isometric  
1 : 100

14 modules (2x7 Portrait)  
for module width  $\leq 1150$  mm

12 modules (2x6 Portrait)  
for module width >1150-1303 mm

Peak velocity qp[z]: 0.67kN/m<sup>2</sup>  
Ground snow load Sk: 1.75kN/m<sup>2</sup>



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|              |  |
|--------------|--|
| Designation: |  |
|--------------|--|

|              |                                          |
|--------------|------------------------------------------|
| Designation: | Data sheet<br>N-Rack 2.20 Concrete 2x7 L |
|--------------|------------------------------------------|

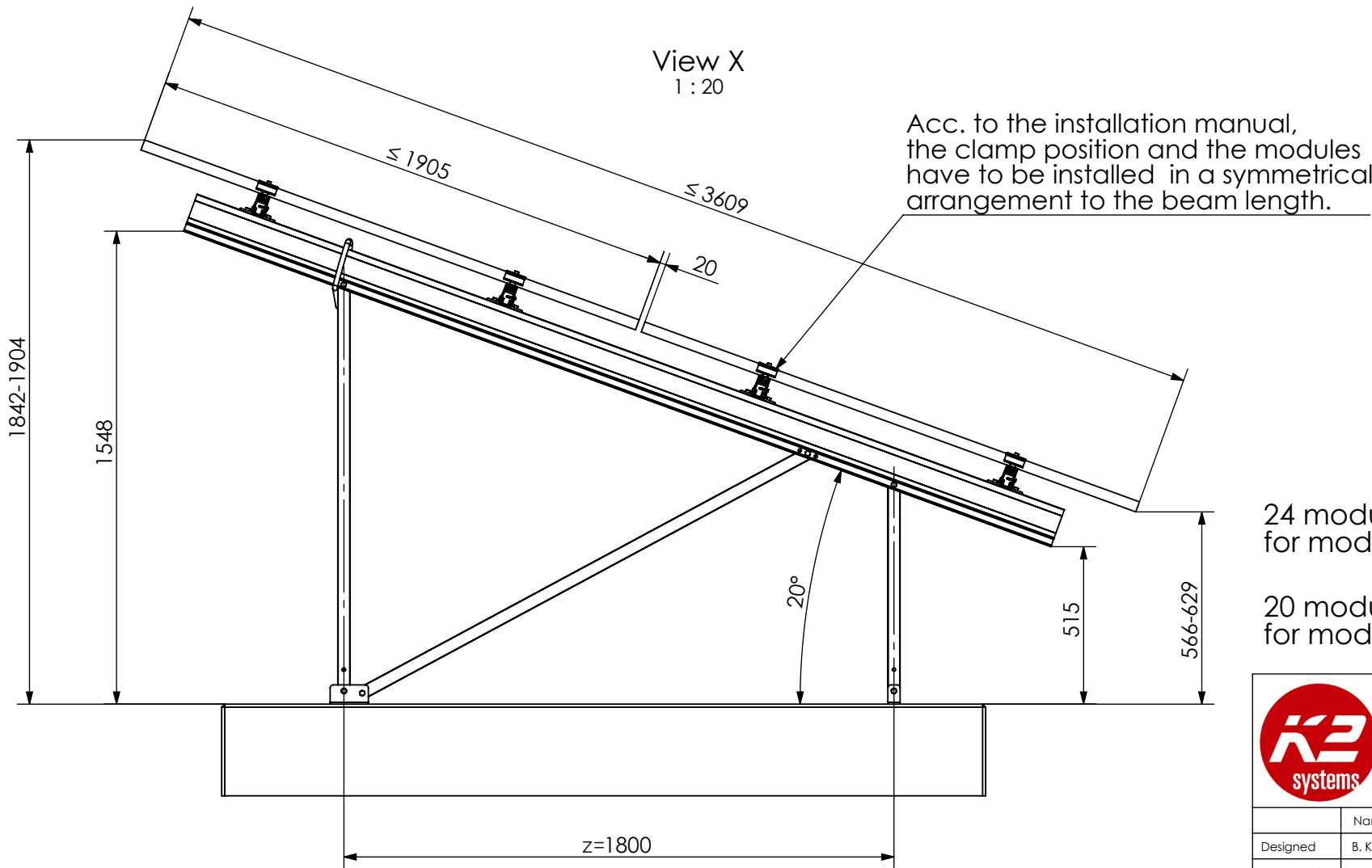
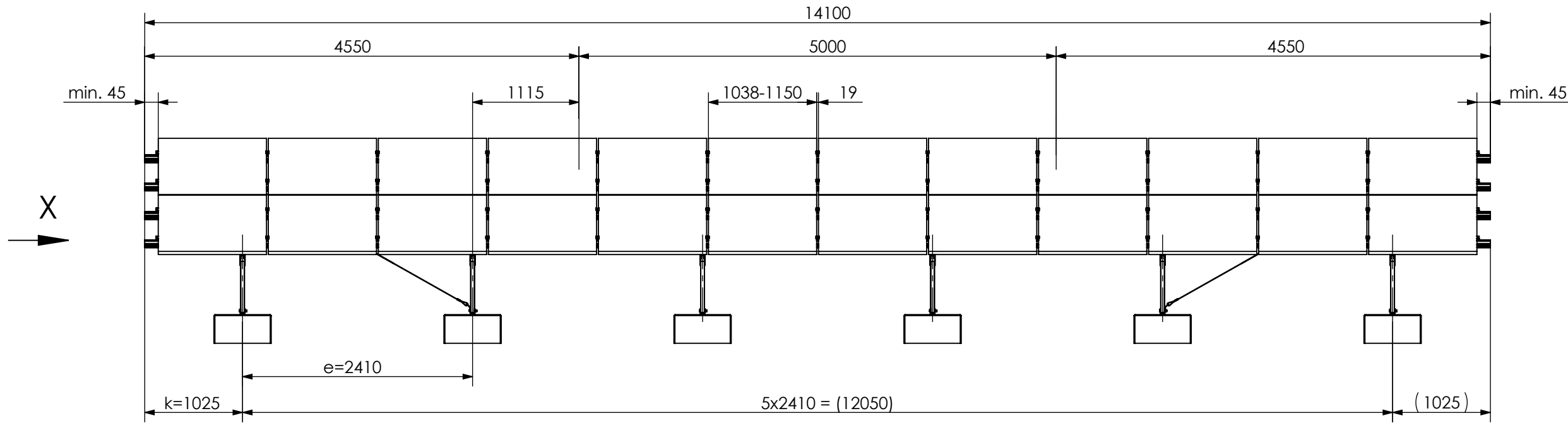
|             |            |            |            |             |                  |  |                      |
|-------------|------------|------------|------------|-------------|------------------|--|----------------------|
|             | Name       | Date       | Material:  |             | Item no.: ---    |  | A3                   |
| Designed    | C. Erb     | 16.12.2025 | -          |             |                  |  |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - |             | Drawing no.: --- |  | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50 |                  |  | Sheet 1 of 1         |

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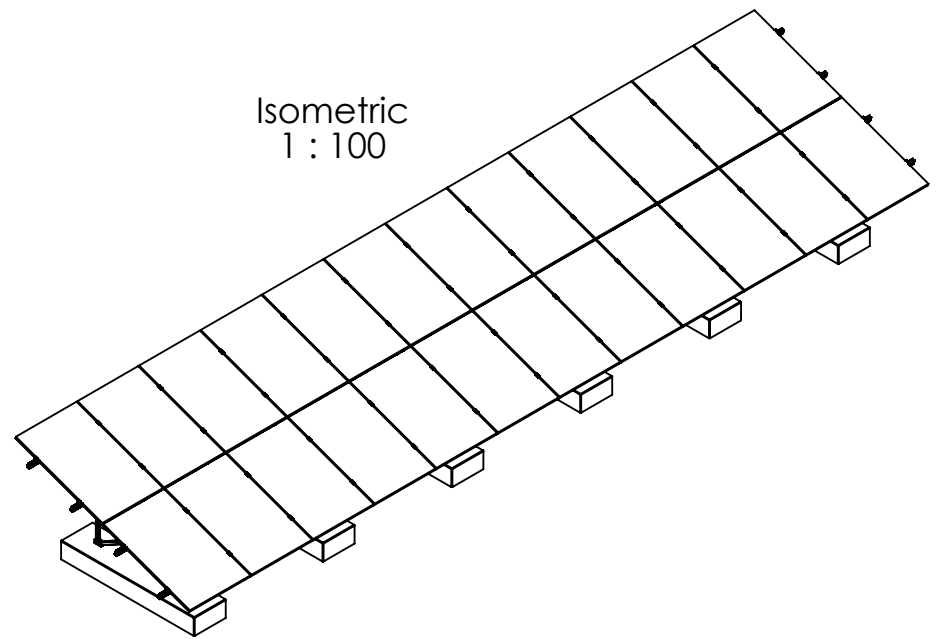




## Concrete Kit 2x12 S



Isometric  
1 : 100



24 modules (2x12 Portrait)  
for module width  $\leq 1150\text{mm}$

20 modules (2x10 Portrait)  
for module width >1150-1303mm

Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²

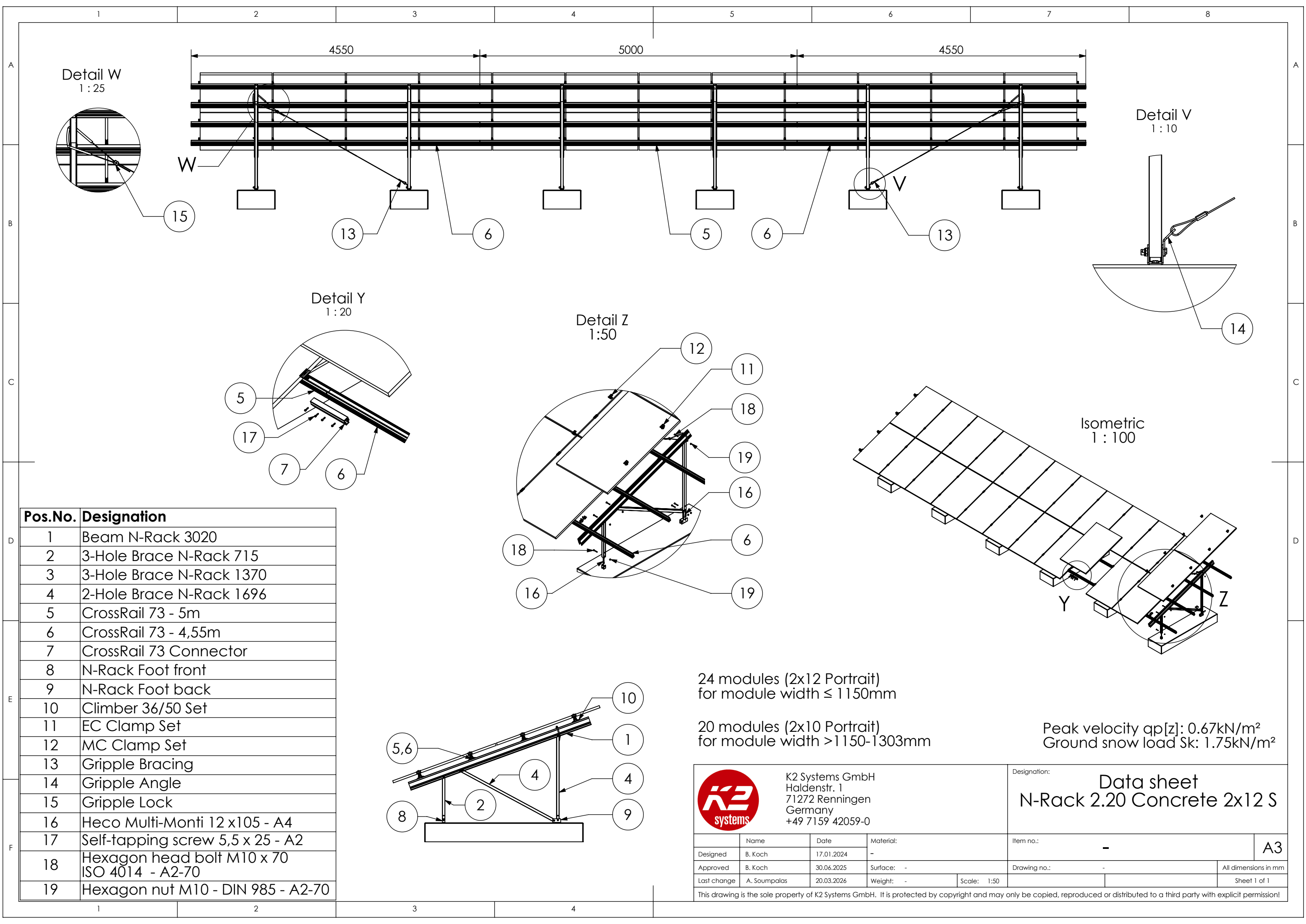


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Designation: Data sheet  
N-Rack 2.20 Concrete 2x12 S

|                                                                                                                                                                                 |              |            |            |             |                |                      |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|------------|-------------|----------------|----------------------|----|
|                                                                                                                                                                                 | Name         | Date       | Material:  |             | Item no.: -    |                      | A3 |
| Designed                                                                                                                                                                        | B. Koch      | 17.01.2024 | -          |             |                |                      |    |
| Approved                                                                                                                                                                        | B. Koch      | 30.06.2025 | Surface: - |             | Drawing no.: - | All dimensions in mm |    |
| Last change                                                                                                                                                                     | A. Soumpalas | 20.03.2026 | Weight: -  | Scale: 1:50 |                | Sheet 1 of 1         |    |
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| Pos.No. | Designation                                    |
|---------|------------------------------------------------|
| 1       | Beam N-Rack 3020                               |
| 2       | 3-Hole Brace N-Rack 715                        |
| 3       | 3-Hole Brace N-Rack 1370                       |
| 4       | 2-Hole Brace N-Rack 1696                       |
| 5       | CrossRail 73 - 5m                              |
| 6       | CrossRail 73 - 4,55m                           |
| 7       | CrossRail 73 Connector                         |
| 8       | N-Rack Foot front                              |
| 9       | N-Rack Foot back                               |
| 10      | Climber 36/50 Set                              |
| 11      | EC Clamp Set                                   |
| 12      | MC Clamp Set                                   |
| 13      | Gripple Bracing                                |
| 14      | Gripple Angle                                  |
| 15      | Gripple Lock                                   |
| 16      | Heco Multi-Monti 12 x105 - A4                  |
| 17      | Self-tapping screw 5,5 x 25 - A2               |
| 18      | Hexagon head bolt M10 x 70<br>ISO 4014 - A2-70 |
| 19      | Hexagon nut M10 - DIN 985 - A2-70              |

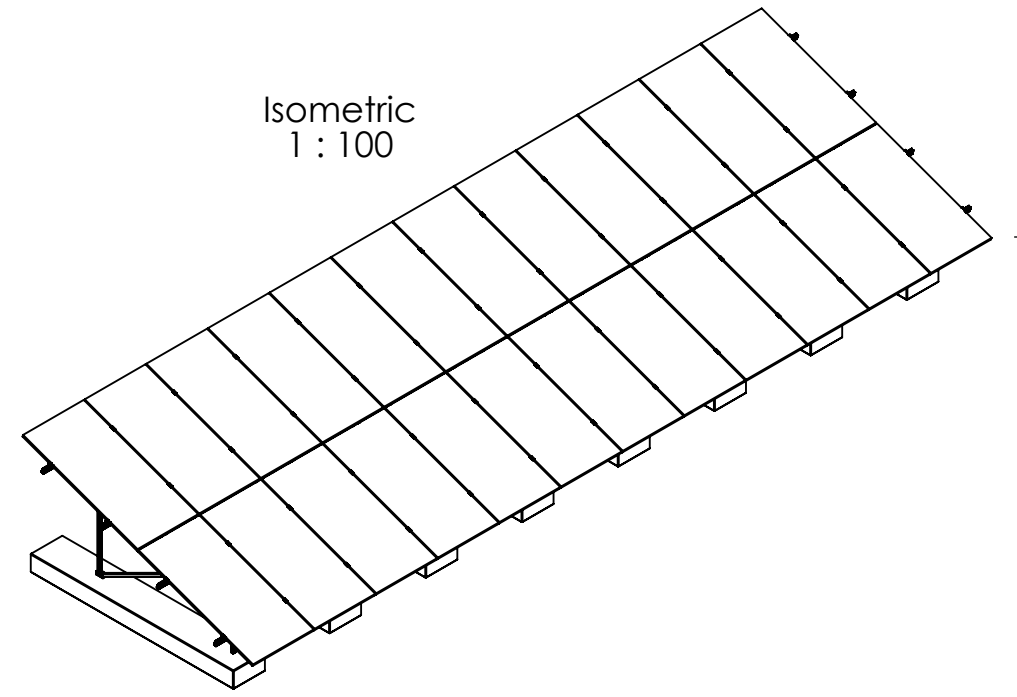
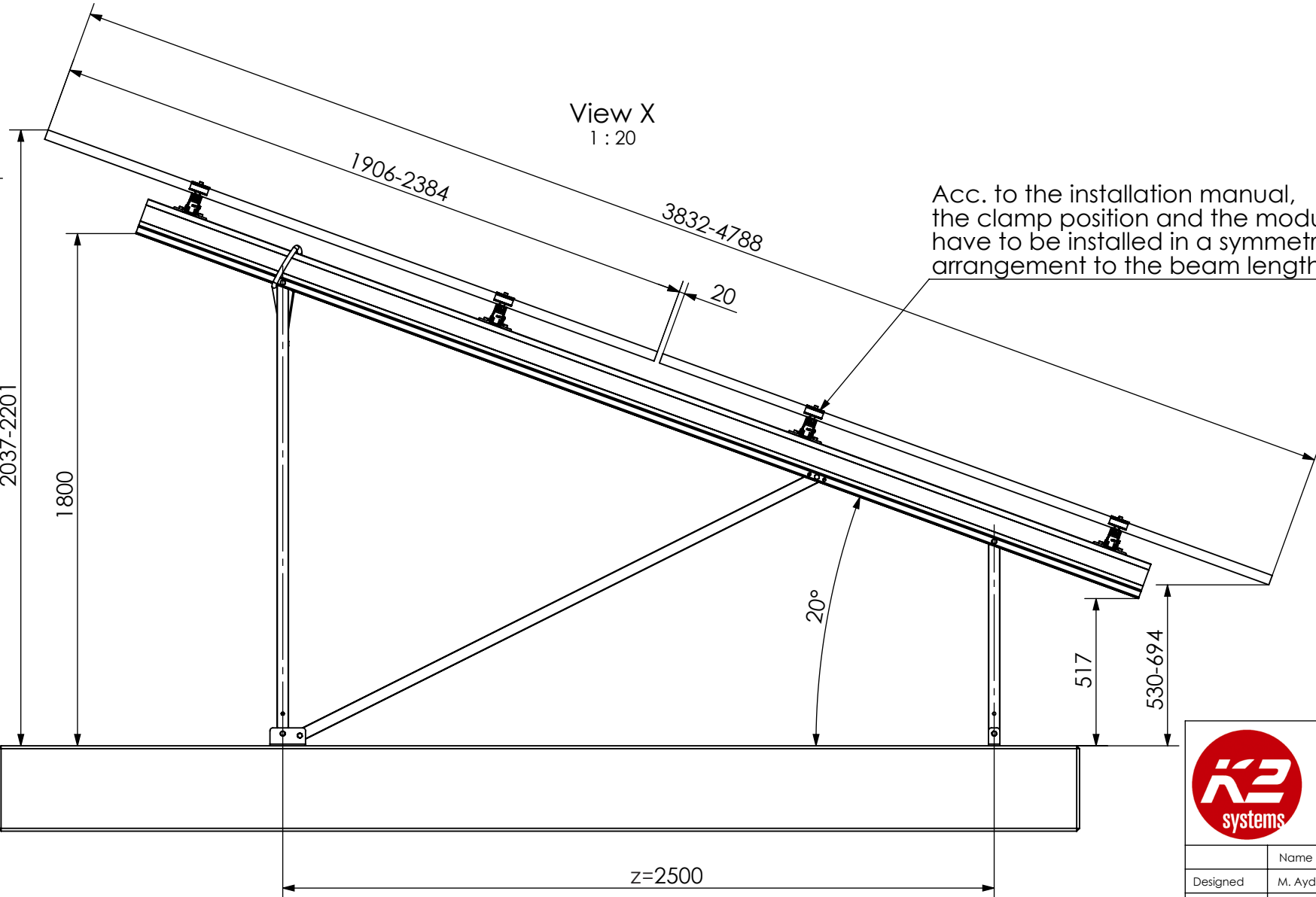
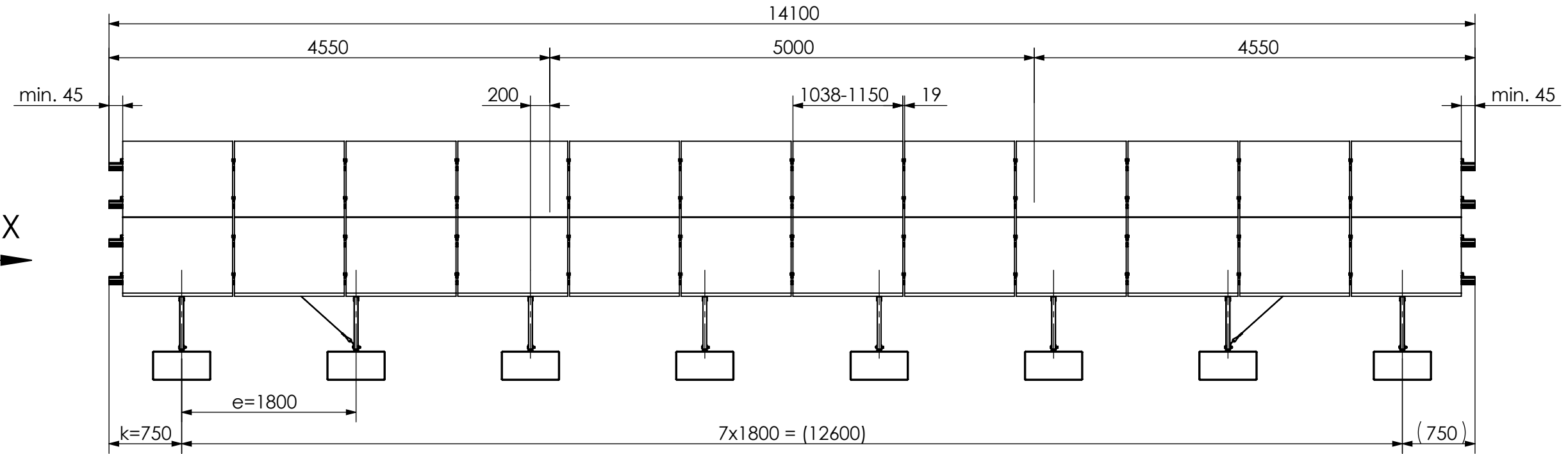
24 modules (2x12 Portrait)  
for module width ≤ 1150mm

20 modules (2x10 Portrait)  
for module width >1150-1303mm

Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²

|                                                                                                                                                                                 |              |            |            |                                                                         |                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|------------|-------------------------------------------------------------------------|----------------------|
|  K2 Systems GmbH<br>Haldenstr. 1<br>71272 Renningen<br>Germany<br>+49 7159 42059-0         |              |            |            | Designation:<br><b>Data sheet</b><br><b>N-Rack 2.20 Concrete 2x12 S</b> |                      |
|                                                                                                                                                                                 | Name         | Date       | Material:  | Item no.:                                                               | A3                   |
| Designed                                                                                                                                                                        | B. Koch      | 17.01.2024 | -          | -                                                                       |                      |
| Approved                                                                                                                                                                        | B. Koch      | 30.06.2025 | Surface: - | Drawing no.:                                                            | All dimensions in mm |
| Last change                                                                                                                                                                     | A. Soumpalas | 20.03.2026 | Weight: -  | Scale: 1:50                                                             | Sheet 1 of 1         |
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Concrete Kit 2x12 L



24 modules (2x12 Portrait)  
for module width ≤ 1150mm

20 modules (2x10 Portrait)  
for module width > 1150-1303mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>

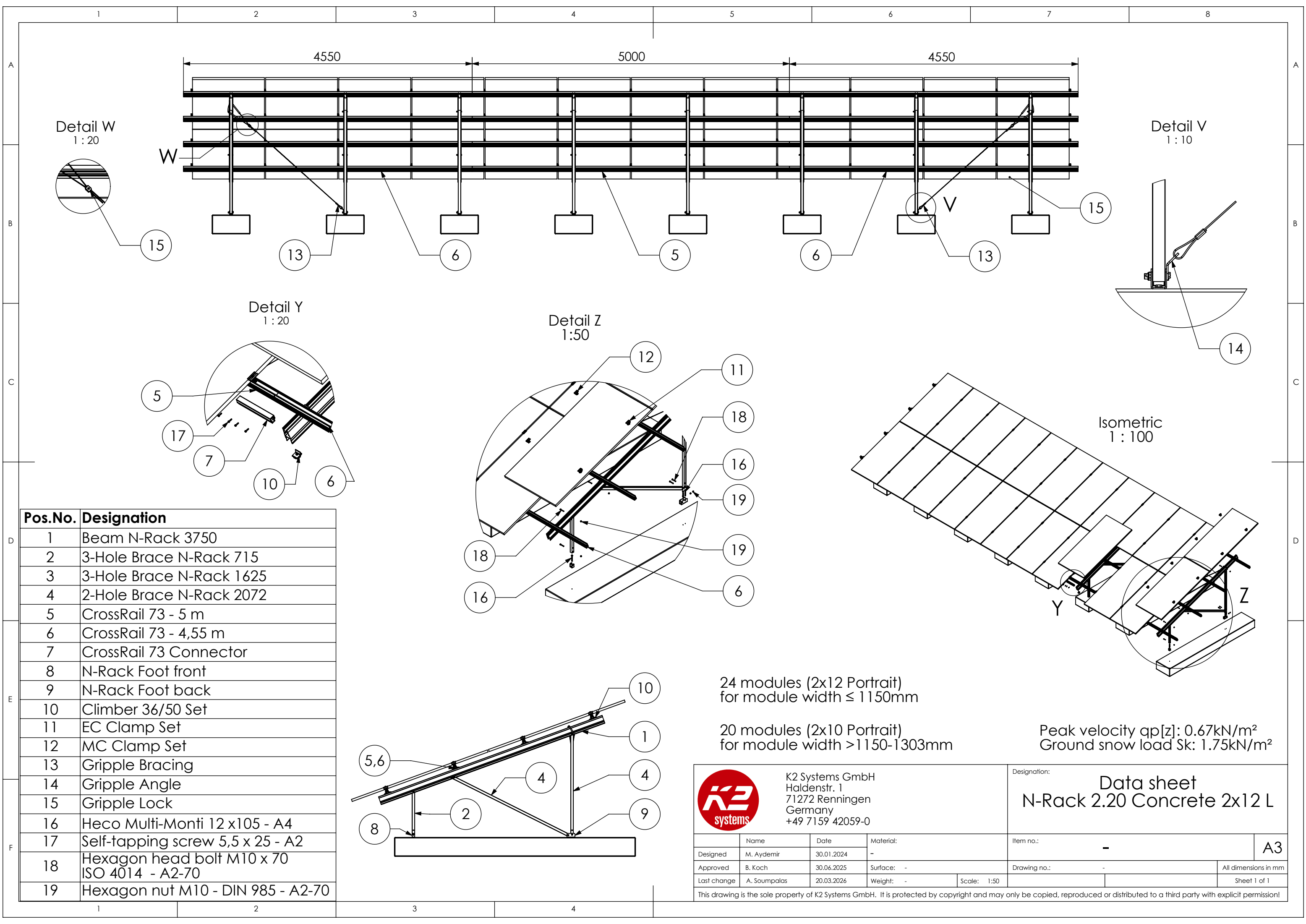


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|              |  |              |  |                             |  |
|--------------|--|--------------|--|-----------------------------|--|
| Designation: |  |              |  | Data sheet                  |  |
|              |  |              |  | N-Rack 2.20 Concrete 2x12 L |  |
| Item no.:    |  | -            |  | A3                          |  |
| Drawing no.: |  | -            |  | All dimensions in mm        |  |
| Last change  |  | A. Soumpalas |  | Sheet 1 of 1                |  |

|             | Name         | Date       | Material:  |
|-------------|--------------|------------|------------|
| Designed    | M. Aydemir   | 30.01.2024 | -          |
| Approved    | B. Koch      | 30.06.2025 | Surface: - |
| Last change | A. Soumpalas | 20.03.2026 | Weight: -  |

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| Pos.No. | Designation                                    |
|---------|------------------------------------------------|
| 1       | Beam N-Rack 3750                               |
| 2       | 3-Hole Brace N-Rack 715                        |
| 3       | 3-Hole Brace N-Rack 1625                       |
| 4       | 2-Hole Brace N-Rack 2072                       |
| 5       | CrossRail 73 - 5 m                             |
| 6       | CrossRail 73 - 4,55 m                          |
| 7       | CrossRail 73 Connector                         |
| 8       | N-Rack Foot front                              |
| 9       | N-Rack Foot back                               |
| 10      | Climber 36/50 Set                              |
| 11      | EC Clamp Set                                   |
| 12      | MC Clamp Set                                   |
| 13      | Gripple Bracing                                |
| 14      | Gripple Angle                                  |
| 15      | Gripple Lock                                   |
| 16      | Heco Multi-Monti 12 x105 - A4                  |
| 17      | Self-tapping screw 5,5 x 25 - A2               |
| 18      | Hexagon head bolt M10 x 70<br>ISO 4014 - A2-70 |
| 19      | Hexagon nut M10 - DIN 985 - A2-70              |

24 modules (2x12 Portrait)  
for module width ≤ 1150mm

20 modules (2x10 Portrait)  
for module width >1150-1303mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>



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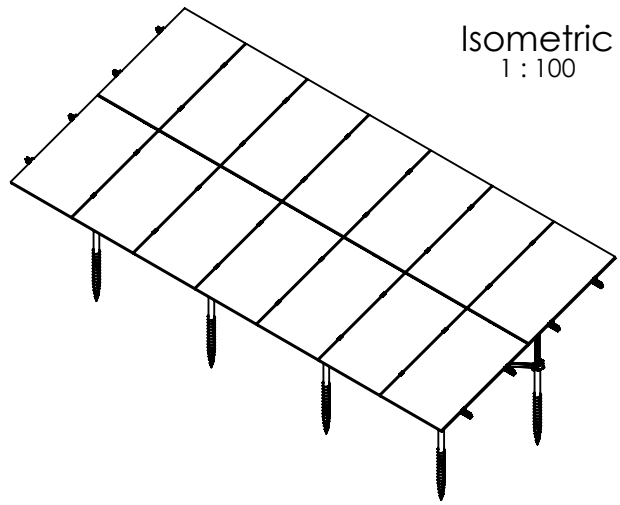
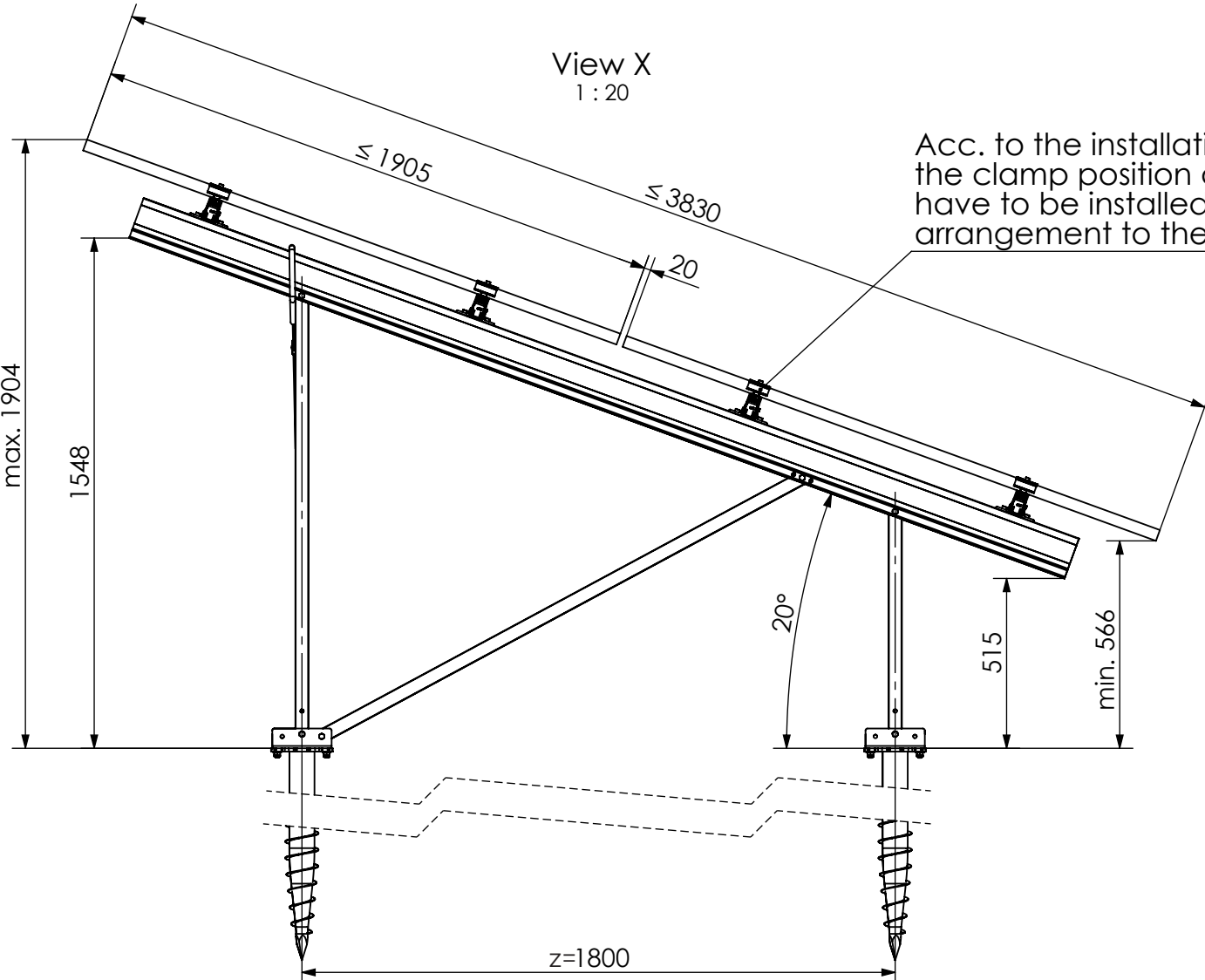
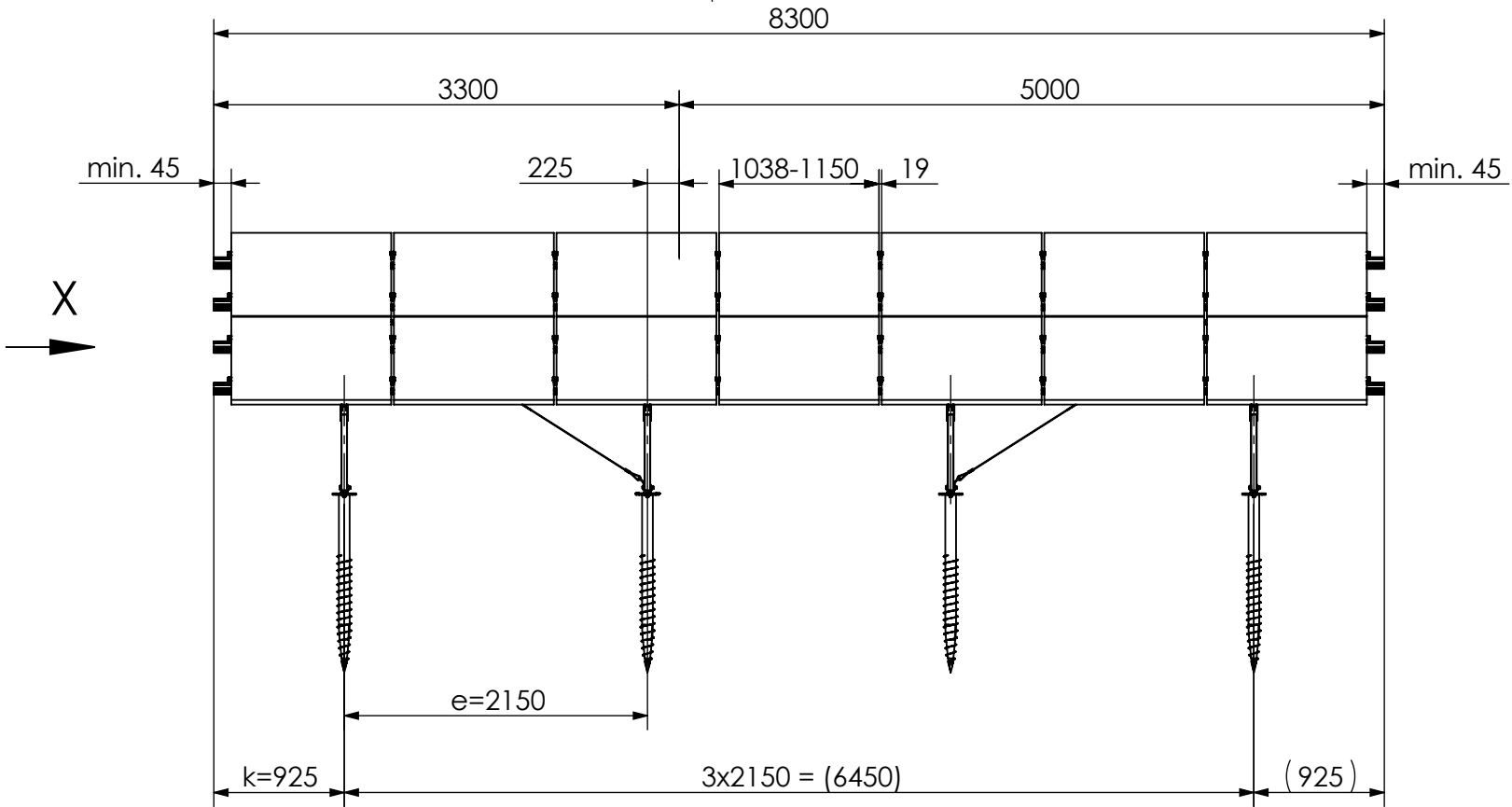
Designation:  
**Data sheet**  
**N-Rack 2.20 Concrete 2x12 L**

|             |              |            |            |              |   |                      |
|-------------|--------------|------------|------------|--------------|---|----------------------|
|             | Name         | Date       | Material:  | Item no.:    | - | A3                   |
| Designed    | M. Aydemir   | 30.01.2024 | -          |              |   |                      |
| Approved    | B. Koch      | 30.06.2025 | Surface: - | Drawing no.: | - | All dimensions in mm |
| Last change | A. Soumpalas | 20.03.2026 | Weight: -  | Scale: 1:50  |   | Sheet 1 of 1         |

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Schraubfundamente

Groundscrew Kit 2x7 S



Acc. to the installation manual, the clamp position and the modules have to be installed in a symmetrical arrangement to the beam length.

14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width > 1150-1303 mm

Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²

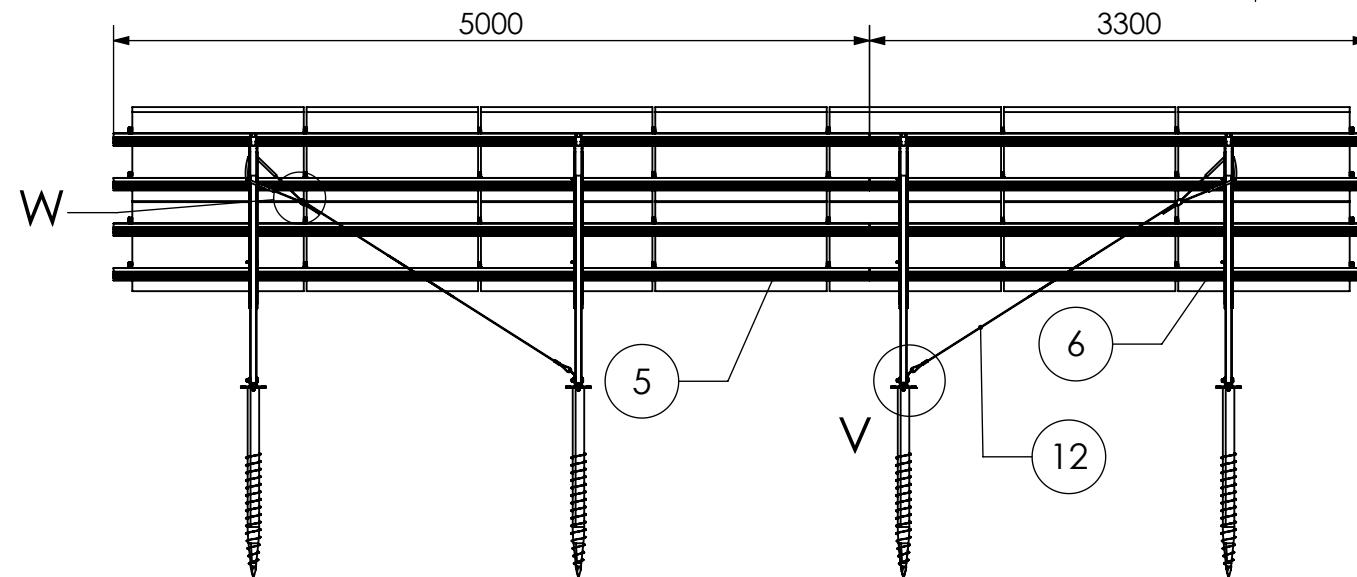


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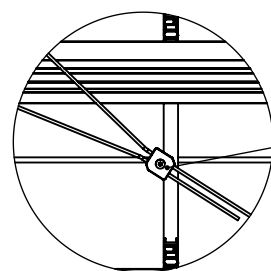
Designation: Data sheet  
N-Rack 2.20 Groundscrew 2x7 S

|             |            |            |            |              |     |                      |
|-------------|------------|------------|------------|--------------|-----|----------------------|
|             | Name       | Date       | Material:  | Item no.:    | --- | A3                   |
| Designed    | C. Erb     | 15.12.2025 | -          |              |     |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: | --- | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50  |     | Sheet 1 of 1         |

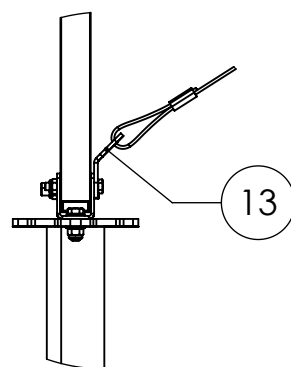
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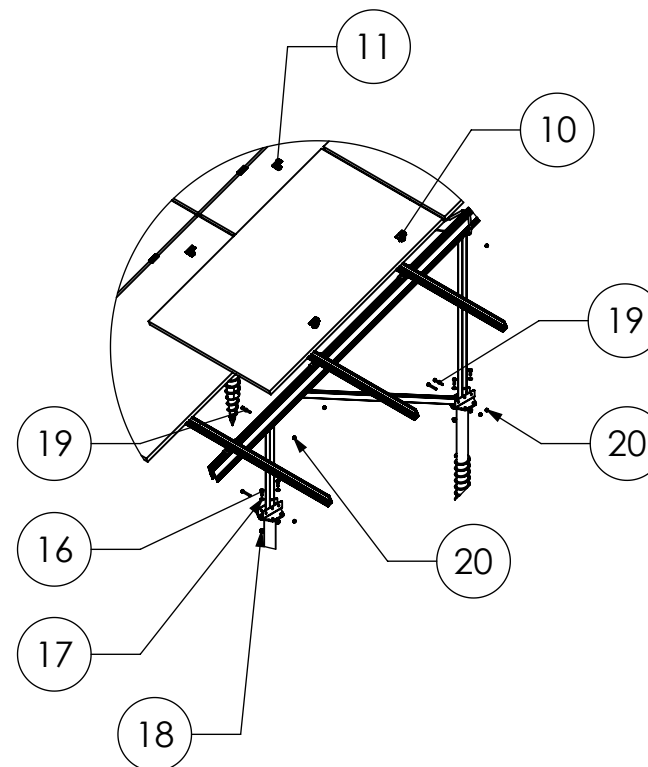
Detail W  
1 : 10



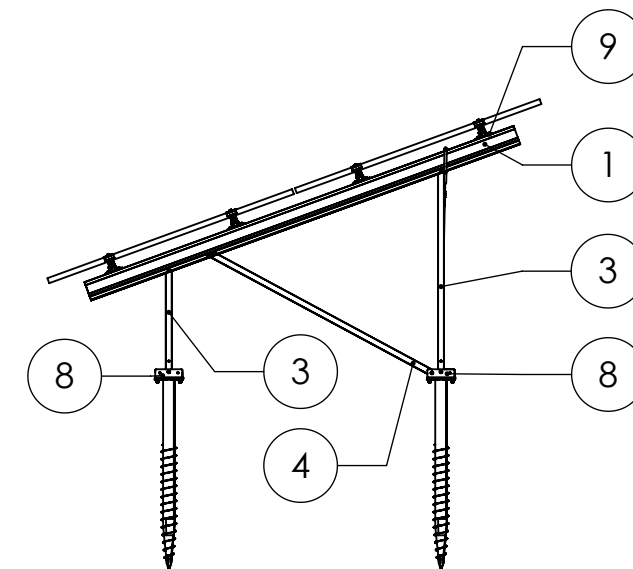
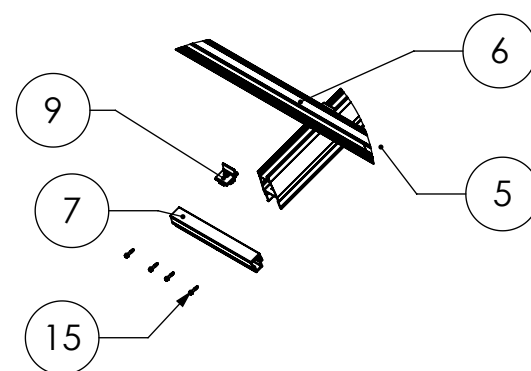
Detail V  
1 : 10



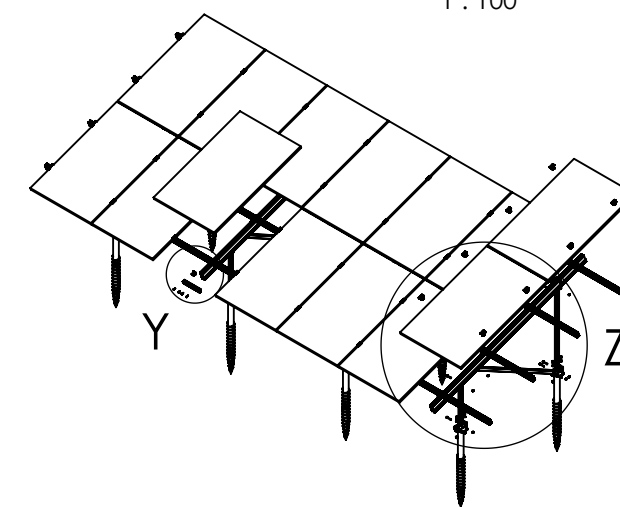
Detail Z  
1:50



Detail Y  
1 : 20



Isometric  
1 : 100



| Pos.No. | Designation                                                       |
|---------|-------------------------------------------------------------------|
| 1       | Beam N-Rack 3020                                                  |
| 2       | 3-Hole Brace N-Rack 715                                           |
| 3       | 3-Hole Brace N-Rack 1370                                          |
| 4       | 2-Hole Brace N-Rack 1696                                          |
| 5       | CrossRail 73 - 5 m                                                |
| 6       | CrossRail 73 - 3,3 m                                              |
| 7       | CrossRail 73 Connector                                            |
| 8       | N-Rack GS Foot                                                    |
| 9       | Climber 36/50 Set                                                 |
| 10      | EC Clamp Set                                                      |
| 11      | MC Clamp Set                                                      |
| 12      | Gripple Bracing                                                   |
| 13      | Gripple Angle                                                     |
| 14      | Gripple Lock                                                      |
| 15      | Self-tapping screw 5,5 x 25 - A2                                  |
| 16      | Hexagon head bolt - ISO 4017 - M8x35 - A2-70                      |
| 17      | Plain washer - ISO 7089 - 12 - A2-50                              |
| 18      | Hexagon nut with flange and clamping part - EN 1663 - M12 - A2-70 |
| 19      | Hexagon head bolt - ISO 4014 - M10x70- A2-70                      |
| 20      | Hexagon nut with clamping piece - ISO 10511 - M10 - A2-70         |

14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width >1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>



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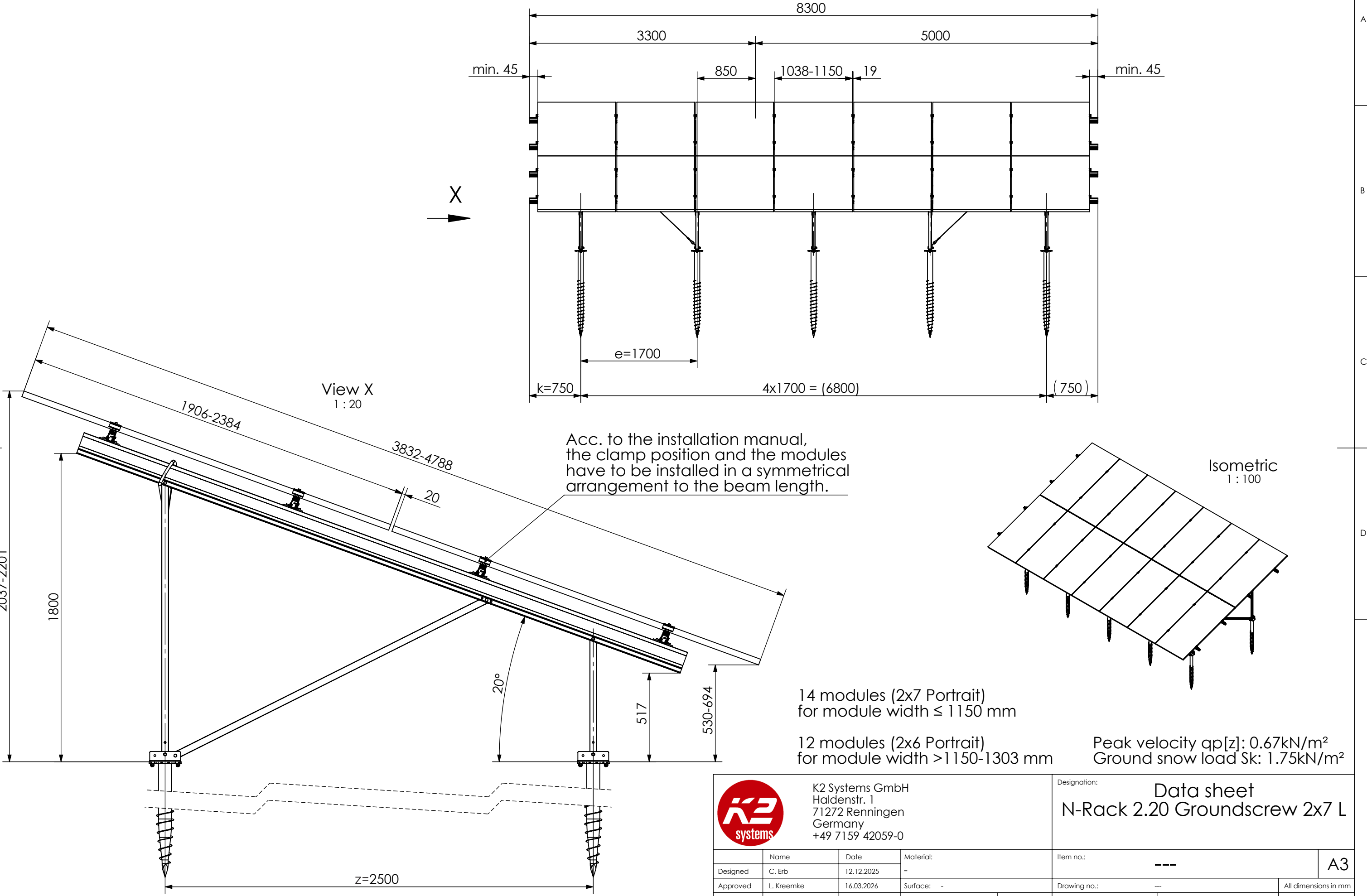
Designation: Data sheet  
N-Rack 2.20 Groundscrew 2x7 S

| Name                | Date       | Material:  | Item no.:        | A3                   |
|---------------------|------------|------------|------------------|----------------------|
| Designed C. Erb     | 15.12.2025 | -          | ---              |                      |
| Approved L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: --- | All dimensions in mm |
| Last change         |            | Weight: -  | Scale: 1:50      | Sheet 1 of 1         |

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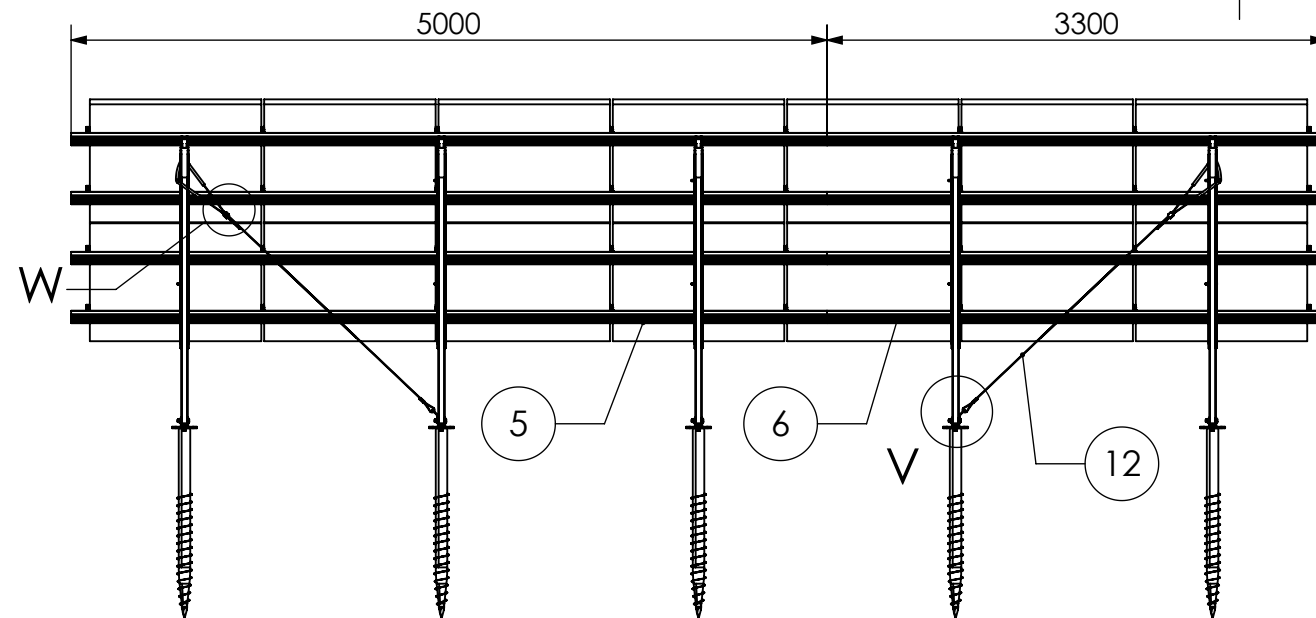
Groundscrew Kit 2x7 L



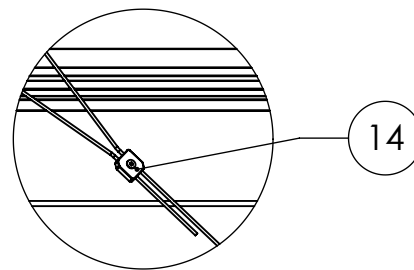
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Designation: Data sheet  
N-Rack 2.20 Groundscrew 2x7 L

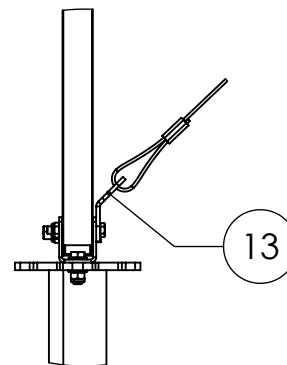
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|-------------|------------|------------|------------|--------------|----------------------|
|             | Name       | Date       | Material:  | Item no.:    | A3                   |
| Designed    | C. Erb     | 12.12.2025 | -          |              |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50  | Sheet 1 of 1         |



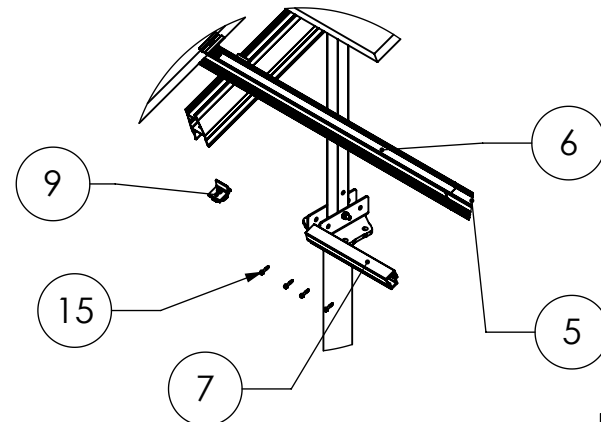
Detail W  
1 : 10



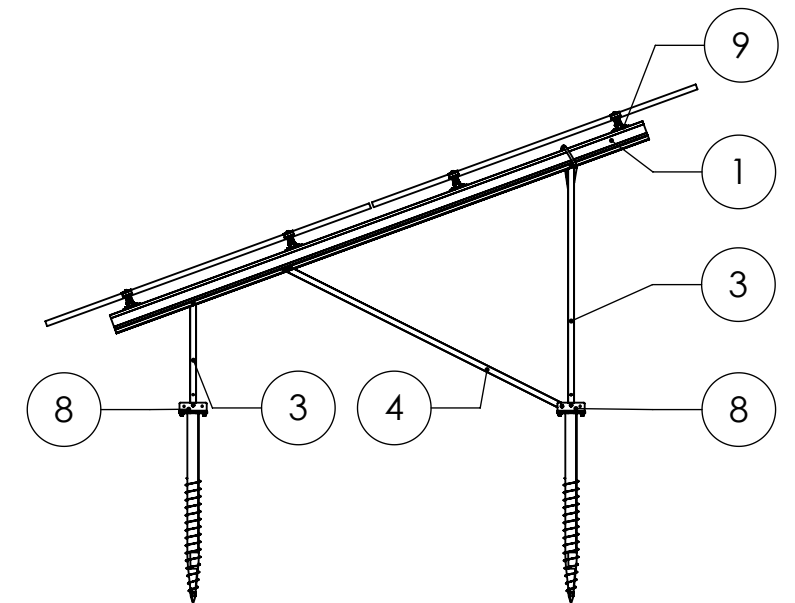
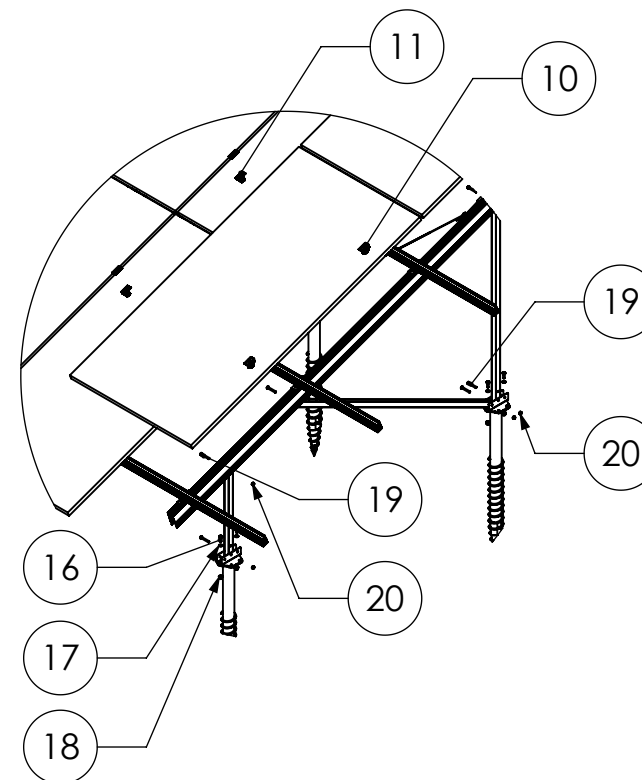
Detail V  
1 : 10



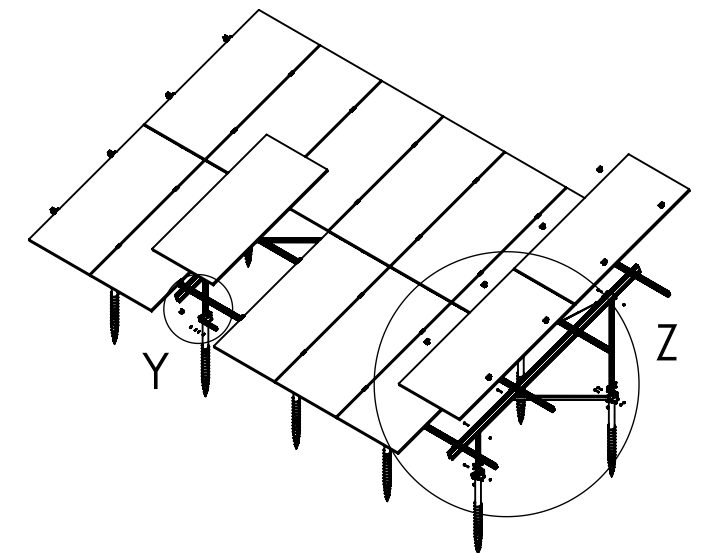
Detail Y  
1 : 20



Detail Z  
1:50



Isometric  
1 : 100



| Pos.No. | Designation                                                       |
|---------|-------------------------------------------------------------------|
| 1       | Beam N-Rack 3750                                                  |
| 2       | 3-Hole Brace N-Rack 715                                           |
| 3       | 3-Hole Brace N-Rack 1625                                          |
| 4       | 2-Hole Brace N-Rack 2072                                          |
| 5       | CrossRail 73 - 5 m                                                |
| 6       | CrossRail 73 - 3,3 m                                              |
| 7       | CrossRail 73 Connector                                            |
| 8       | N-Rack GS Foot                                                    |
| 9       | Climber 36/50 Set                                                 |
| 10      | EC Clamp Set                                                      |
| 11      | MC Clamp Set                                                      |
| 12      | Gripple Bracing                                                   |
| 13      | Gripple Angle                                                     |
| 14      | Gripple Lock                                                      |
| 15      | Self-tapping screw 5,5 x 25 - A2                                  |
| 16      | Hexagon head bolt - ISO 4017 - M8x35 - A2-70                      |
| 17      | Plain washer - ISO 7089 - 12 - A2-50                              |
| 18      | Hexagon nut with flange and clamping part - EN 1663 - M12 - A2-70 |
| 19      | Hexagon head bolt - ISO 4014 - M10x70- A2-70                      |
| 20      | Hexagon nut with clamping piece - ISO 10511 - M10 - A2-70         |

14 modules (2x7 Portrait)  
for module width  $\leq 1150$  mm

12 modules (2x6 Portrait)  
for module width  $>1150-1303$  mm

Peak velocity  $q_p[z]$ :  $0.67 \text{ kN/m}^2$   
Ground snow load  $S_k$ :  $1.75 \text{ kN/m}^2$



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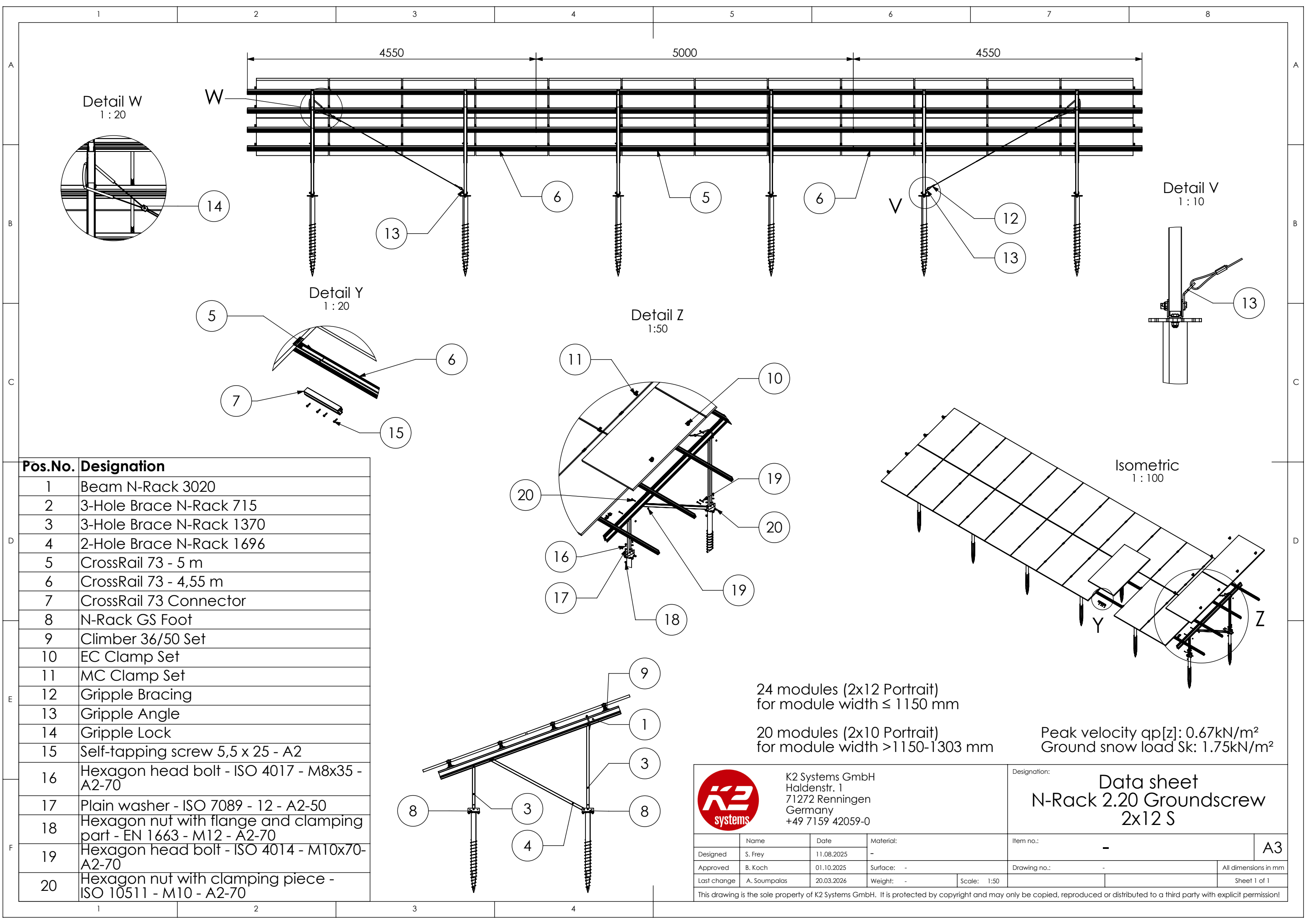
Designation: **Data sheet**  
**N-Rack 2.20 Groundscrew 2x7 L**

| Name                | Date       | Material:  | Item no.:        | A3                   |
|---------------------|------------|------------|------------------|----------------------|
| Designed C. Erb     | 12.12.2025 | -          | ---              |                      |
| Approved L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: --- | All dimensions in mm |
| Last change         |            | Weight: -  | Scale: 1:50      | Sheet 1 of 1         |

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| Pos.No. | Designation                                                       |
|---------|-------------------------------------------------------------------|
| 1       | Beam N-Rack 3020                                                  |
| 2       | 3-Hole Brace N-Rack 715                                           |
| 3       | 3-Hole Brace N-Rack 1370                                          |
| 4       | 2-Hole Brace N-Rack 1696                                          |
| 5       | CrossRail 73 - 5 m                                                |
| 6       | CrossRail 73 - 4,55 m                                             |
| 7       | CrossRail 73 Connector                                            |
| 8       | N-Rack GS Foot                                                    |
| 9       | Climber 36/50 Set                                                 |
| 10      | EC Clamp Set                                                      |
| 11      | MC Clamp Set                                                      |
| 12      | Gripple Bracing                                                   |
| 13      | Gripple Angle                                                     |
| 14      | Gripple Lock                                                      |
| 15      | Self-tapping screw 5,5 x 25 - A2                                  |
| 16      | Hexagon head bolt - ISO 4017 - M8x35 - A2-70                      |
| 17      | Plain washer - ISO 7089 - 12 - A2-50                              |
| 18      | Hexagon nut with flange and clamping part - EN 1663 - M12 - A2-70 |
| 19      | Hexagon head bolt - ISO 4014 - M10x70-A2-70                       |
| 20      | Hexagon nut with clamping piece - ISO 10511 - M10 - A2-70         |

24 modules (2x12 Portrait)  
for module width ≤ 1150 mm

20 modules (2x10 Portrait)  
for module width >1150-1303 mm

Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²



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Designation:

Data sheet

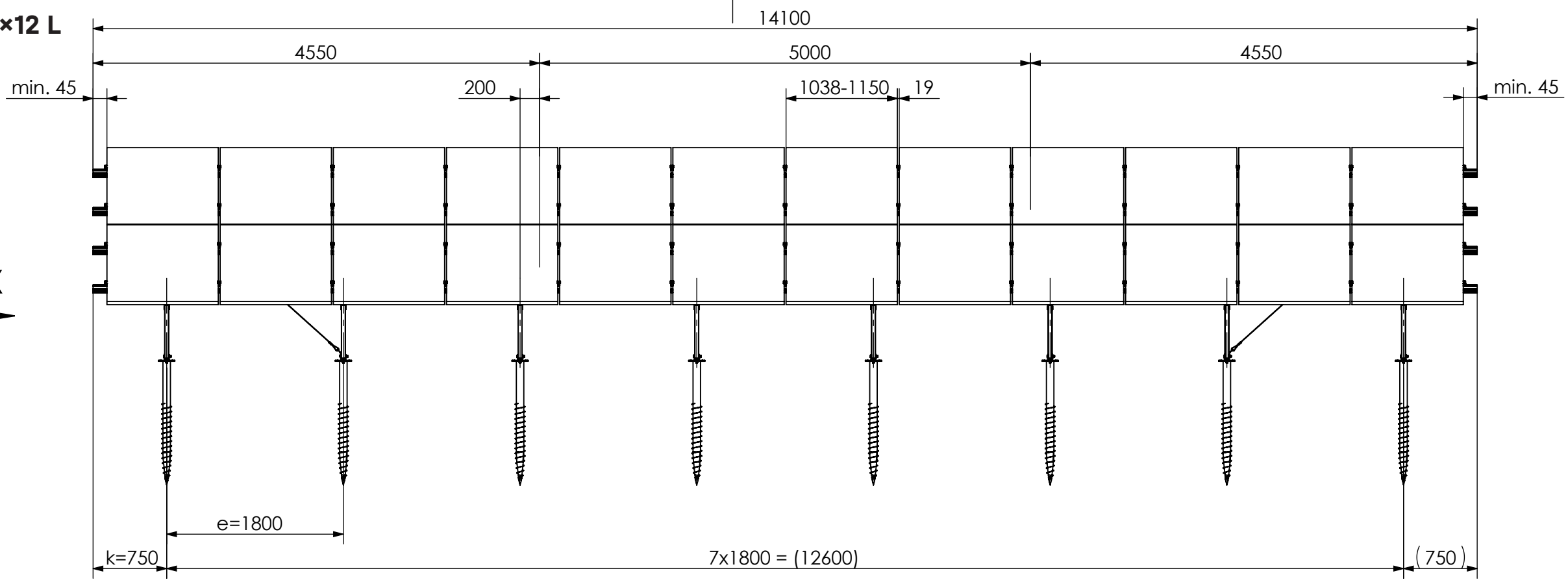
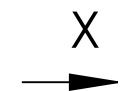
N-Rack 2.20 Groundscrew

2x12 S

|             |              |            |            |              |      |                      |
|-------------|--------------|------------|------------|--------------|------|----------------------|
|             | Name         | Date       | Material:  | Item no.:    | -    | A3                   |
| Designed    | S. Frey      | 11.08.2025 | -          |              |      |                      |
| Approved    | B. Koch      | 01.10.2025 | Surface: - | Drawing no.: | -    | All dimensions in mm |
| Last change | A. Soumpalas | 20.03.2026 | Weight: -  | Scale:       | 1:50 | Sheet 1 of 1         |

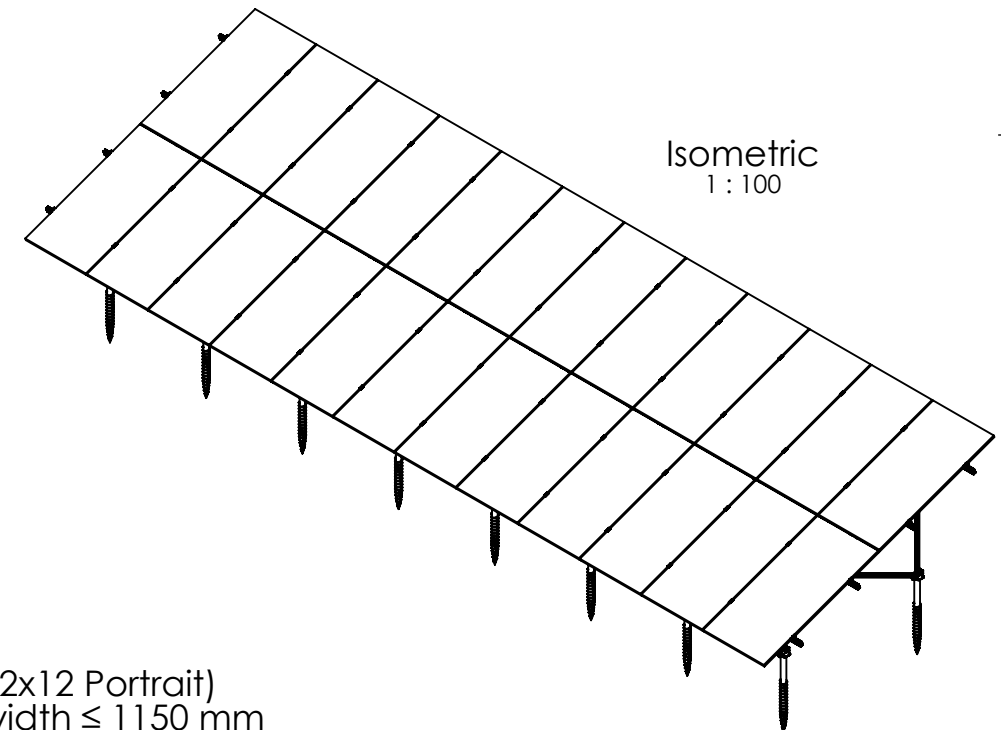
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Groundscrew Kit 2x12 L

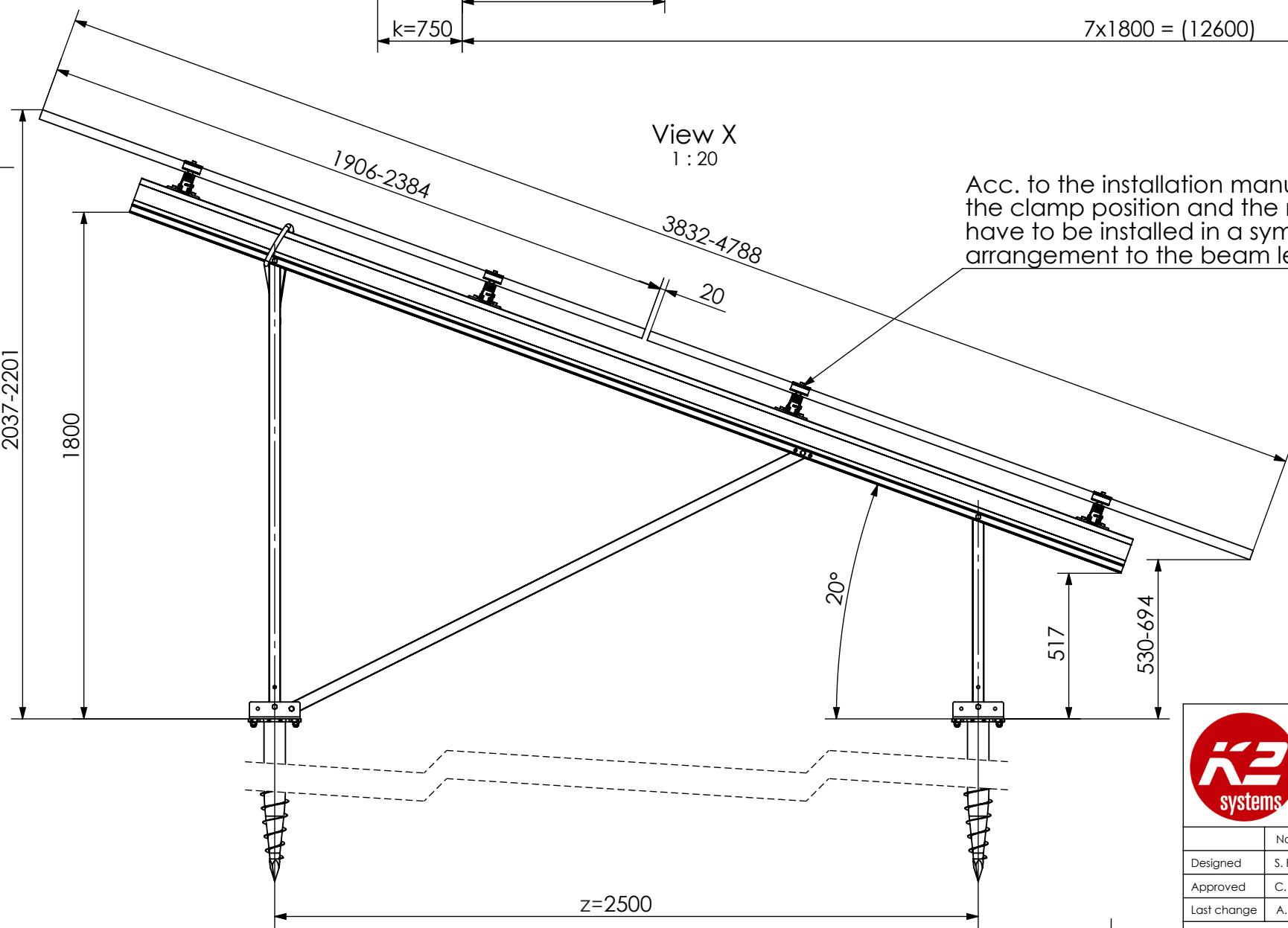


View X  
1 : 20

Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.



Isometric  
1 : 100



24 modules (2x12 Portrait)  
for module width ≤ 1150 mm

20 modules (2x10 Portrait)  
for module width > 1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>

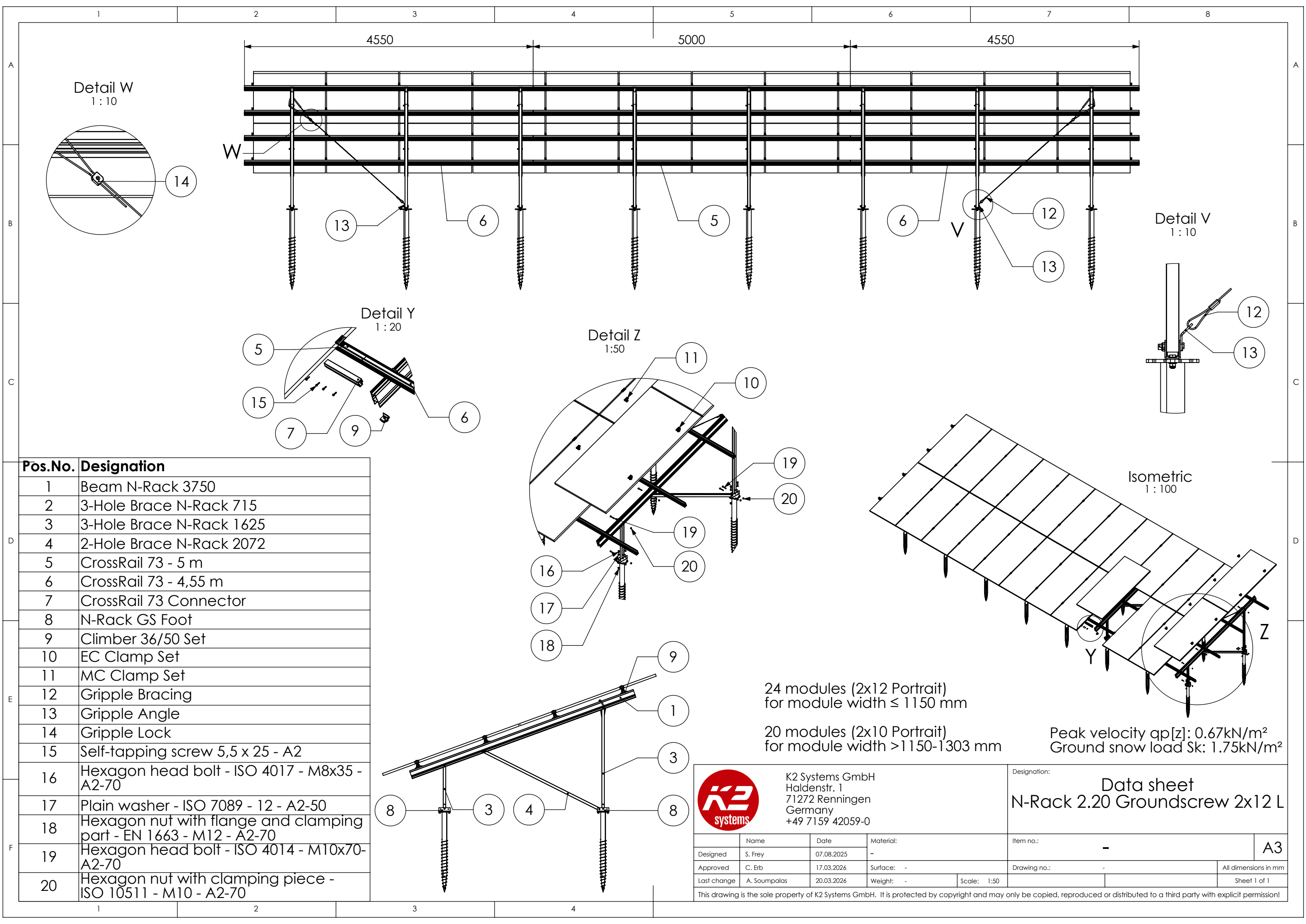


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Designation: Data sheet  
N-Rack 2.20 Groundscrew 2x12 L

|             |              |            |            |              |   |                      |
|-------------|--------------|------------|------------|--------------|---|----------------------|
|             | Name         | Date       | Material:  | Item no.:    | - | A3                   |
| Designed    | S. Frey      | 07.08.2025 | -          |              |   |                      |
| Approved    | C. Erb       | 17.03.2026 | Surface: - | Drawing no.: | - | All dimensions in mm |
| Last change | A. Soumpalas | 20.03.2026 | Weight: -  | Scale: 1:50  |   | Sheet 1 of 1         |

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| Pos.No. | Designation                                                       |
|---------|-------------------------------------------------------------------|
| 1       | Beam N-Rack 3750                                                  |
| 2       | 3-Hole Brace N-Rack 715                                           |
| 3       | 3-Hole Brace N-Rack 1625                                          |
| 4       | 2-Hole Brace N-Rack 2072                                          |
| 5       | CrossRail 73 - 5 m                                                |
| 6       | CrossRail 73 - 4,55 m                                             |
| 7       | CrossRail 73 Connector                                            |
| 8       | N-Rack GS Foot                                                    |
| 9       | Climber 36/50 Set                                                 |
| 10      | EC Clamp Set                                                      |
| 11      | MC Clamp Set                                                      |
| 12      | Gripple Bracing                                                   |
| 13      | Gripple Angle                                                     |
| 14      | Gripple Lock                                                      |
| 15      | Self-tapping screw 5,5 x 25 - A2                                  |
| 16      | Hexagon head bolt - ISO 4017 - M8x35 - A2-70                      |
| 17      | Plain washer - ISO 7089 - 12 - A2-50                              |
| 18      | Hexagon nut with flange and clamping part - EN 1663 - M12 - A2-70 |
| 19      | Hexagon head bolt - ISO 4014 - M10x70-A2-70                       |
| 20      | Hexagon nut with clamping piece - ISO 10511 - M10 - A2-70         |



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|             | Name         | Date       | Material:  |
|-------------|--------------|------------|------------|
| Designed    | S. Frey      | 07.08.2025 | -          |
| Approved    | C. Erb       | 17.03.2026 | Surface: - |
| Last change | A. Soumpalas | 20.03.2026 | Weight: -  |

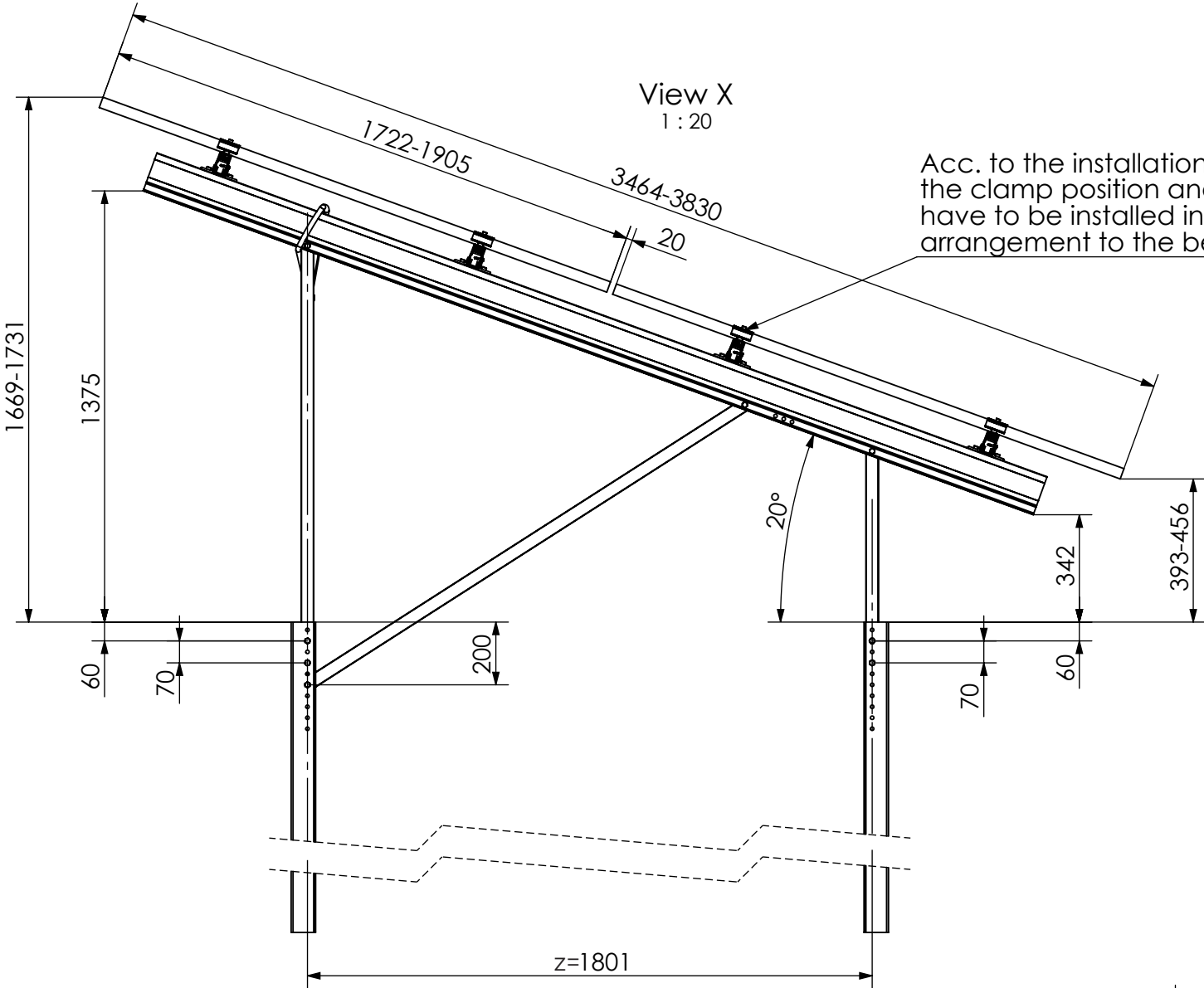
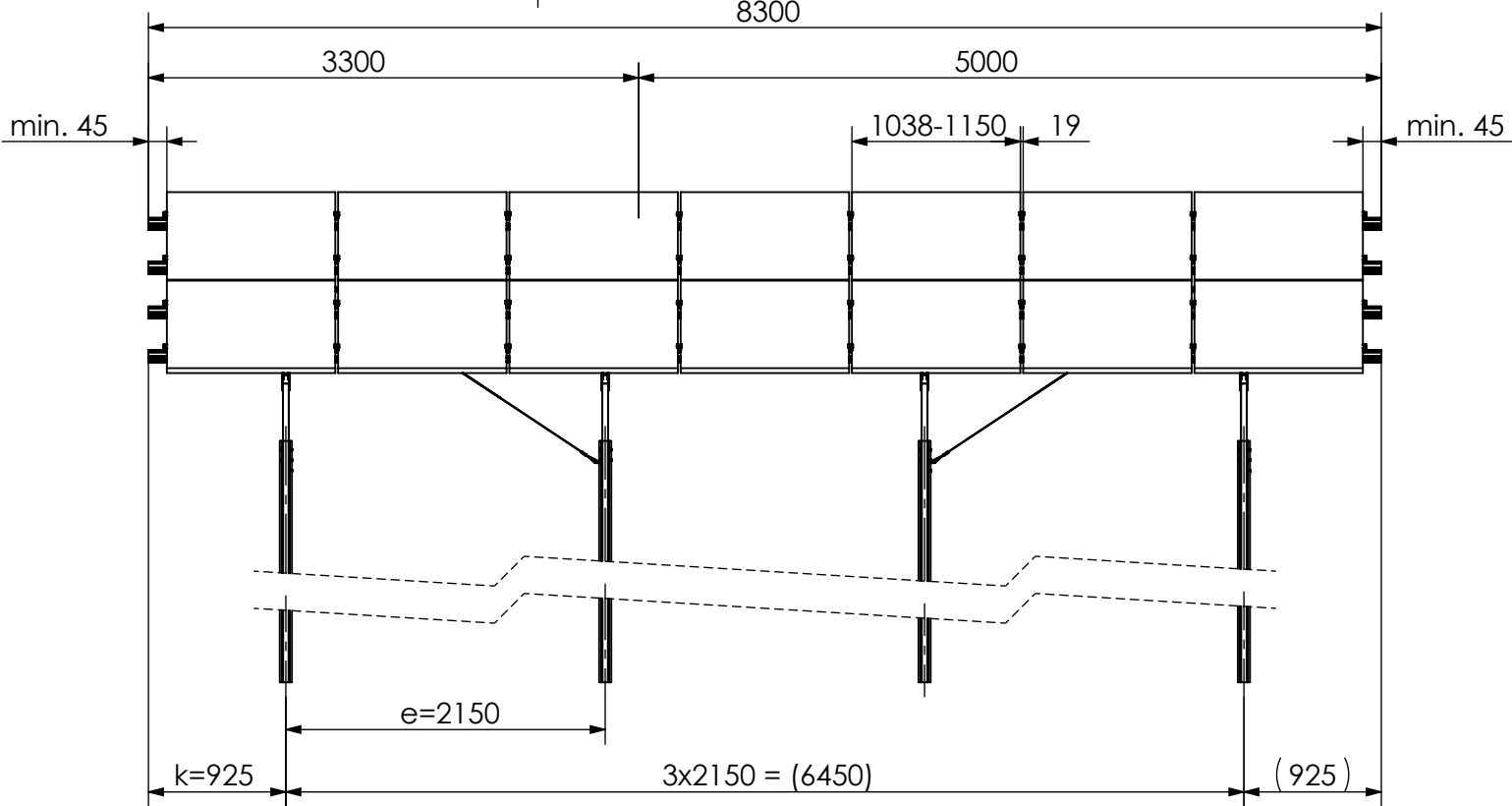
Scale: 1:50

|              |                                              |  |                      |
|--------------|----------------------------------------------|--|----------------------|
| Designation: | Data sheet<br>N-Rack 2.20 Groundscrew 2x12 L |  |                      |
| Item no.:    | -                                            |  |                      |
| Drawing no.: | -                                            |  |                      |
|              |                                              |  | A3                   |
|              |                                              |  | All dimensions in mm |
|              |                                              |  | Sheet 1 of 1         |

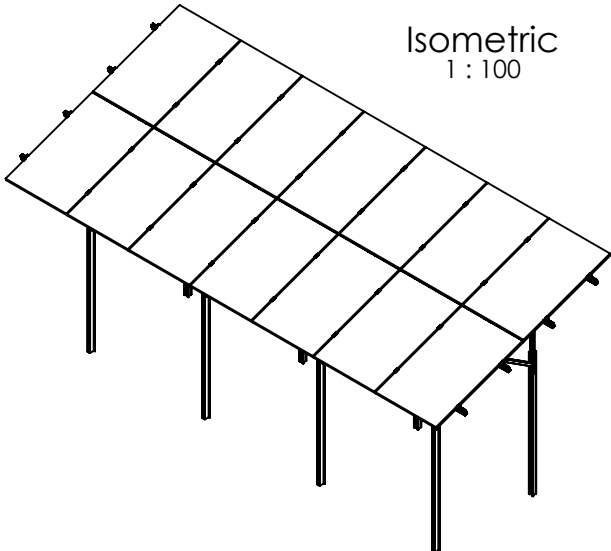
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Rammfundamente

Pile Kit 2x7 S



Acc. to the installation manual, the clamp position and the modules have to be installed in a symmetrical arrangement to the beam length.



14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width > 1150-1303 mm

Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²



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Designation: Data sheet  
N-Rack 2.20 Pile 2x7 S

|             |            |            |            |              |   |                      |
|-------------|------------|------------|------------|--------------|---|----------------------|
|             | Name       | Date       | Material:  | Item no.:    | - | A3                   |
| Designed    | C. Erb     | 28.01.2026 | -          |              |   |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: | - | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50  |   | Sheet 1 of 1         |

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| Pos.No. | Designation |
|---------|-------------|
|---------|-------------|



Designation: Data sheet  
N-Rack 2.20 Pile 2x7 S

|                                                                                                                                                                                 |            |            |            |             |                |  |                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|-------------|----------------|--|----------------------|
|                                                                                                                                                                                 | Name       | Date       | Material:  |             | Item no.:      |  | A3                   |
| Designed                                                                                                                                                                        | C. Erb     | 28.01.2026 | -          |             | -              |  |                      |
| Approved                                                                                                                                                                        | L. Kreemke | 16.03.2026 | Surface: - |             | Drawing no.: - |  | All dimensions in mm |
| Last change                                                                                                                                                                     |            |            | Weight: -  | Scale: 1:50 |                |  | Sheet 1 of 1         |
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**Pile Kit 2x7 L**

8300

3300 5000

min. 45 1038-1150 19 min. 45

X

e=1700

k=750 4x1700 = (6800) (750)

View X  
1 : 20

1906-2384 3832-4788 20

Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.

20°

344 357-521 70 60 200

1864-2028 1627 60 70

z=2500

Isometric  
1 : 100

14 modules (2x7 Portrait)  
for module width ≤ 1150 mm

12 modules (2x6 Portrait)  
for module width > 1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>

|                                                                                       |                                                                                   |            |            |                                                              |           |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|------------|--------------------------------------------------------------|-----------|
|  | K2 Systems GmbH<br>Haldenstr. 1<br>71272 Renningen<br>Germany<br>+49 7159 42059-0 |            |            | Designation:<br><b>Data sheet<br/>N-Rack 2.20 Pile 2x7 L</b> |           |
|                                                                                       | Name                                                                              | Date       | Material:  | Item no.:                                                    | <b>A3</b> |
|                                                                                       | Designed<br>C. Erb                                                                | 28.01.2026 | -          | -                                                            |           |
|                                                                                       | Approved<br>L. Kreemke                                                            | 16.03.2026 | Surface: - | Drawing no.: -                                               |           |
|                                                                                       | Last change                                                                       |            | Weight: -  | Scale: 1:50                                                  |           |
| All dimensions in mm<br>Sheet 1 of 1                                                  |                                                                                   |            |            |                                                              |           |

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Isometric  
1 : 100

Peak velocity qp[z]: 0.67kN/m<sup>2</sup>  
Ground snow load Sk: 1.75kN/m<sup>2</sup>



Designation: **Data sheet**  
**N-Rack 2.20 Pile 2x7 L**

|                                                                                                                                                                                 |            |            |            |             |                |  |                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|-------------|----------------|--|----------------------|
|                                                                                                                                                                                 | Name       | Date       | Material:  |             | Item no.:      |  | A3                   |
| Designed                                                                                                                                                                        | C. Erb     | 28.01.2026 | -          |             | -              |  |                      |
| Approved                                                                                                                                                                        | L. Kreemke | 16.03.2026 | Surface: - |             | Drawing no.: - |  | All dimensions in mm |
| Last change                                                                                                                                                                     |            |            | Weight: -  | Scale: 1:50 |                |  | Sheet 1 of 1         |
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| Pos.No. | Designation |
|---------|-------------|
|---------|-------------|

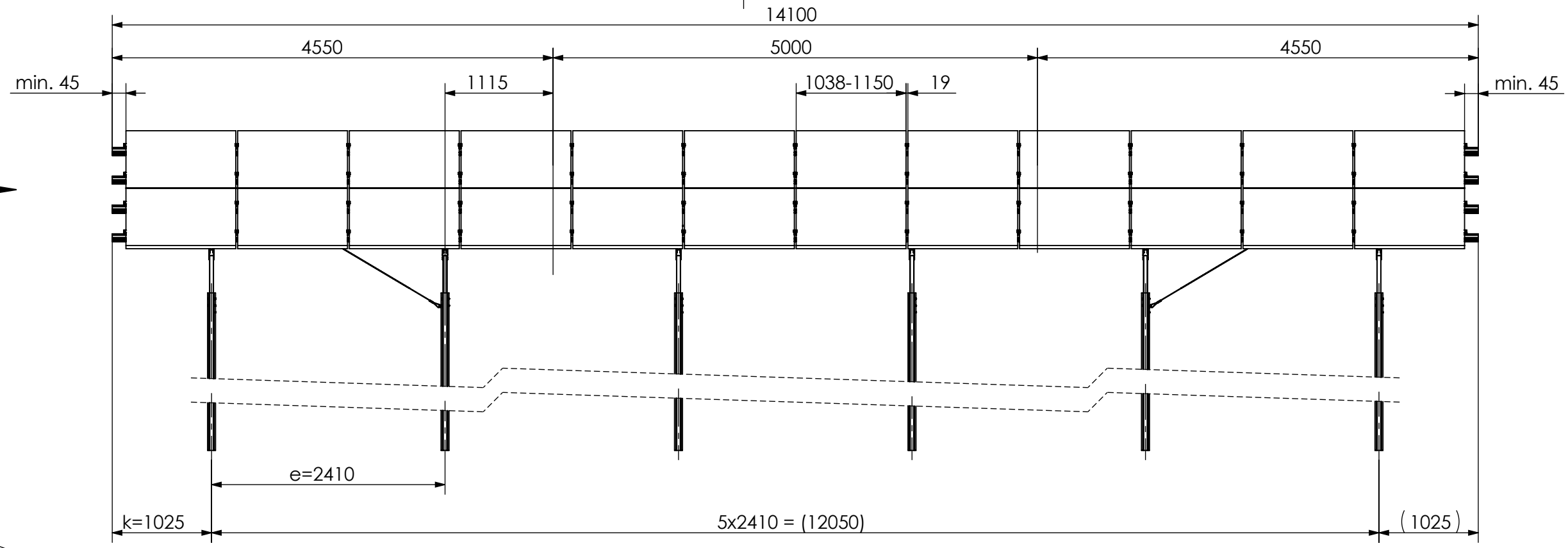
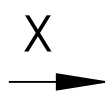


Designation: Data sheet  
N-Rack 2.20 Pile 2x7 L

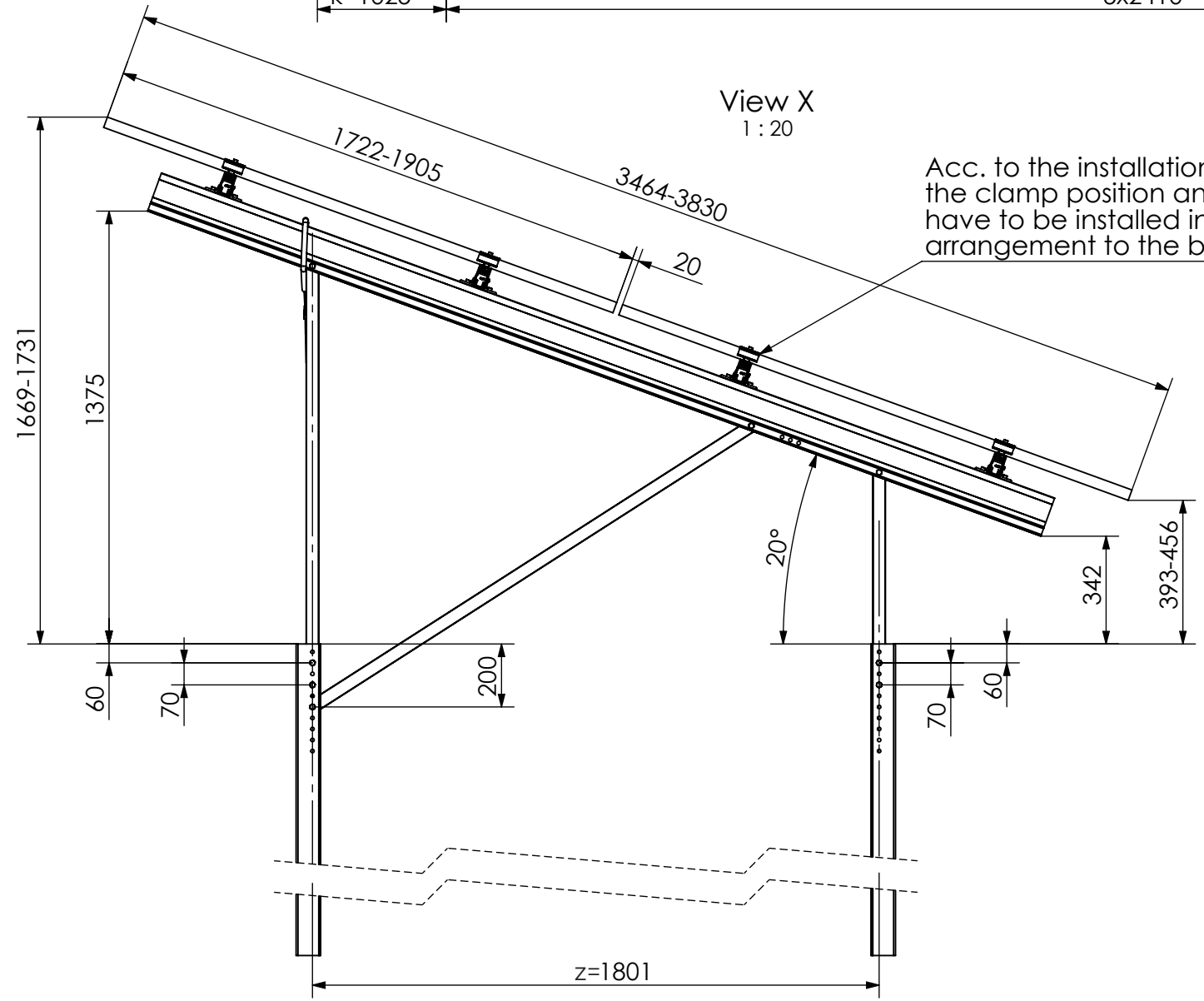
|             |            |            |            |             |                |  |                      |
|-------------|------------|------------|------------|-------------|----------------|--|----------------------|
|             | Name       | Date       | Material:  |             | Item no.: -    |  | A3                   |
| Designed    | C. Erb     | 28.01.2026 | -          |             |                |  |                      |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - |             | Drawing no.: - |  | All dimensions in mm |
| Last change |            |            | Weight: -  | Scale: 1:50 |                |  | Sheet 1 of 1         |

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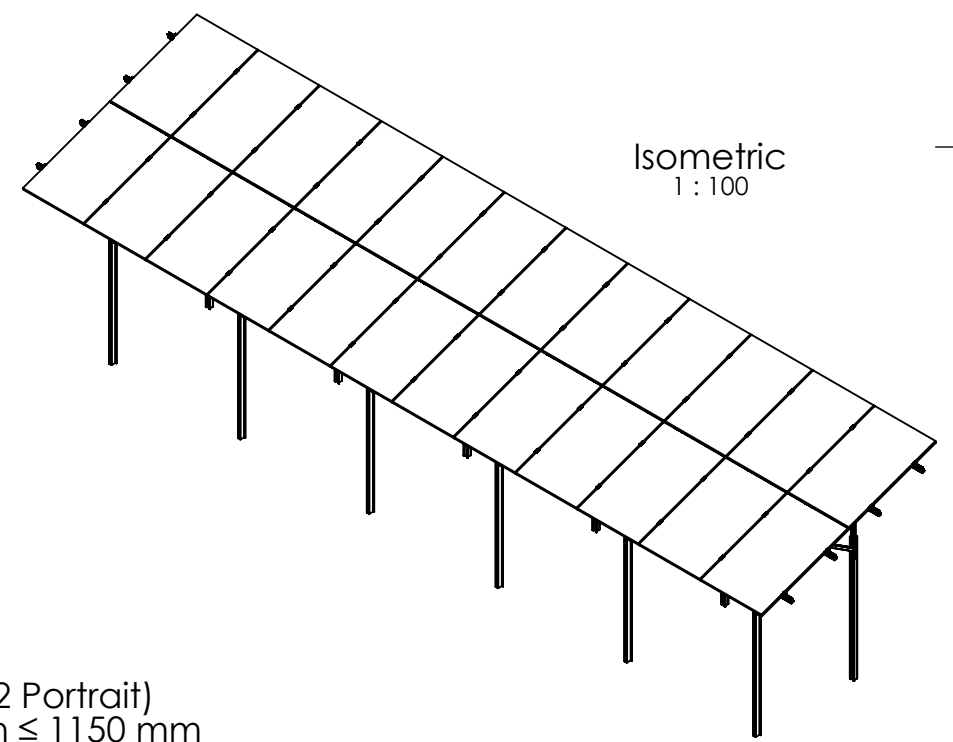
Pile Kit 2x12 S



View X  
1 : 20



Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.



Isometric  
1 : 100

24 modules (2x12 Portrait)  
for module width ≤ 1150 mm

20 modules (2x10 Portrait)  
for module width > 1150-1303 mm

Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²



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Designation:

**Data sheet**  
**N-Rack 2.20 Pile 2x12 S**

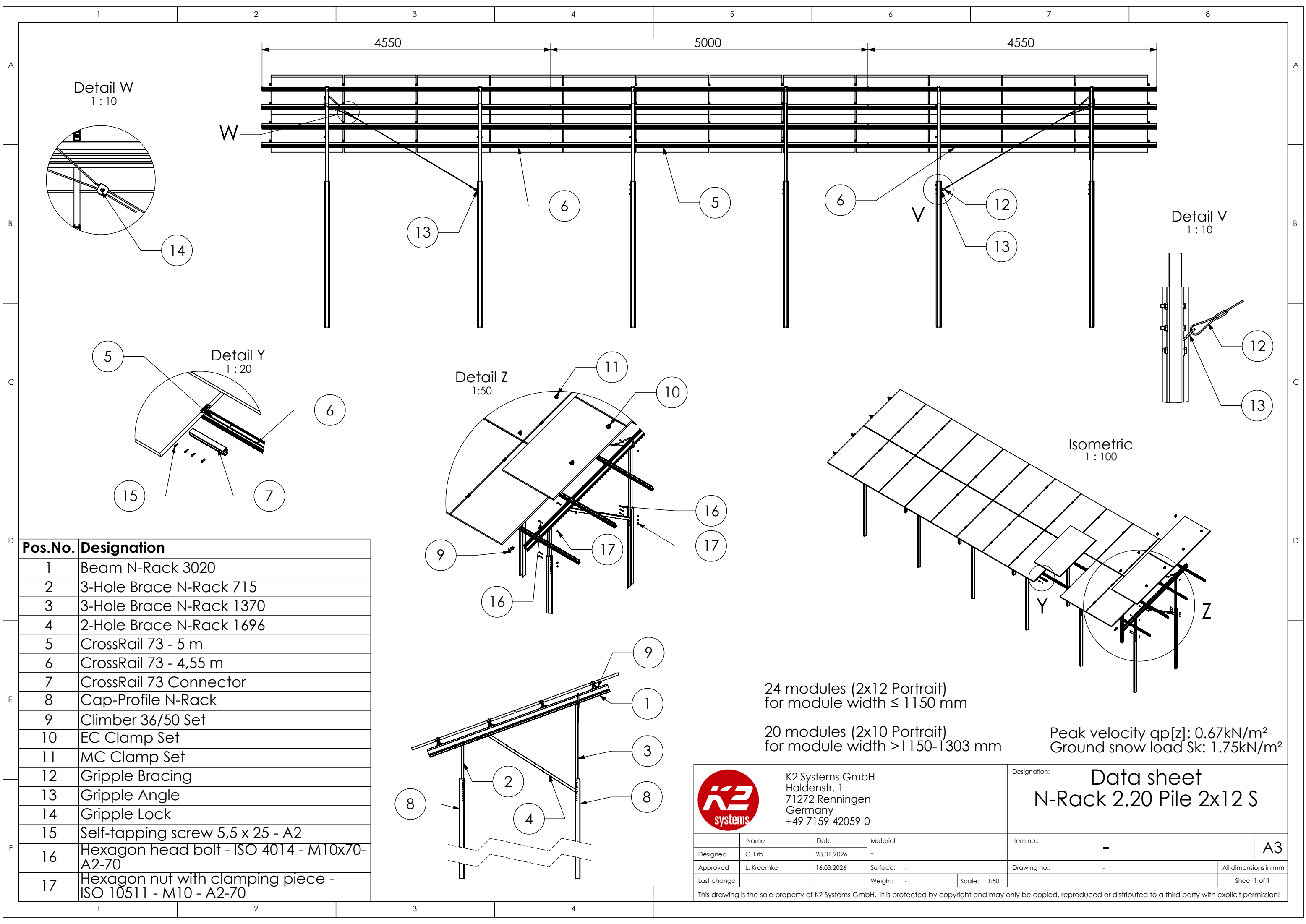
|             |            |            |            |                |    |
|-------------|------------|------------|------------|----------------|----|
|             | Name       | Date       | Material:  | Item no.:      | A3 |
| Designed    | C. Erb     | 28.01.2026 | -          | -              |    |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.: - |    |
| Last change |            |            | Weight: -  | Scale: 1:50    |    |

All dimensions in mm

Sheet 1 of 1

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Detail W  
1 : 10

Detail V  
1 : 10

Detail Y  
1 : 20

Detail Z  
1 : 50

Isometric  
1 : 100

| Pos.No. | Designation                                               |
|---------|-----------------------------------------------------------|
| 1       | Beam N-Rack 3020                                          |
| 2       | 3-Hole Brace N-Rack 715                                   |
| 3       | 3-Hole Brace N-Rack 1370                                  |
| 4       | 2-Hole Brace N-Rack 1696                                  |
| 5       | CrossRail 73 - 5 m                                        |
| 6       | CrossRail 73 - 4,55 m                                     |
| 7       | CrossRail 73 Connector                                    |
| 8       | Cap-Profile N-Rack                                        |
| 9       | Climber 36/50 Set                                         |
| 10      | EC Clamp Set                                              |
| 11      | MC Clamp Set                                              |
| 12      | Gripple Bracing                                           |
| 13      | Gripple Angle                                             |
| 14      | Gripple Lock                                              |
| 15      | Self-tapping screw 5,5 x 25 - A2                          |
| 16      | Hexagon head bolt - ISO 4014 - M10x70-A2-70               |
| 17      | Hexagon nut with clamping piece - ISO 10511 - M10 - A2-70 |

24 modules (2x12 Portrait)  
for module width ≤ 1150 mm

20 modules (2x10 Portrait)  
for module width >1150-1303 mm

Peak velocity qp[z]: 0.67kN/m²  
Ground snow load Sk: 1.75kN/m²

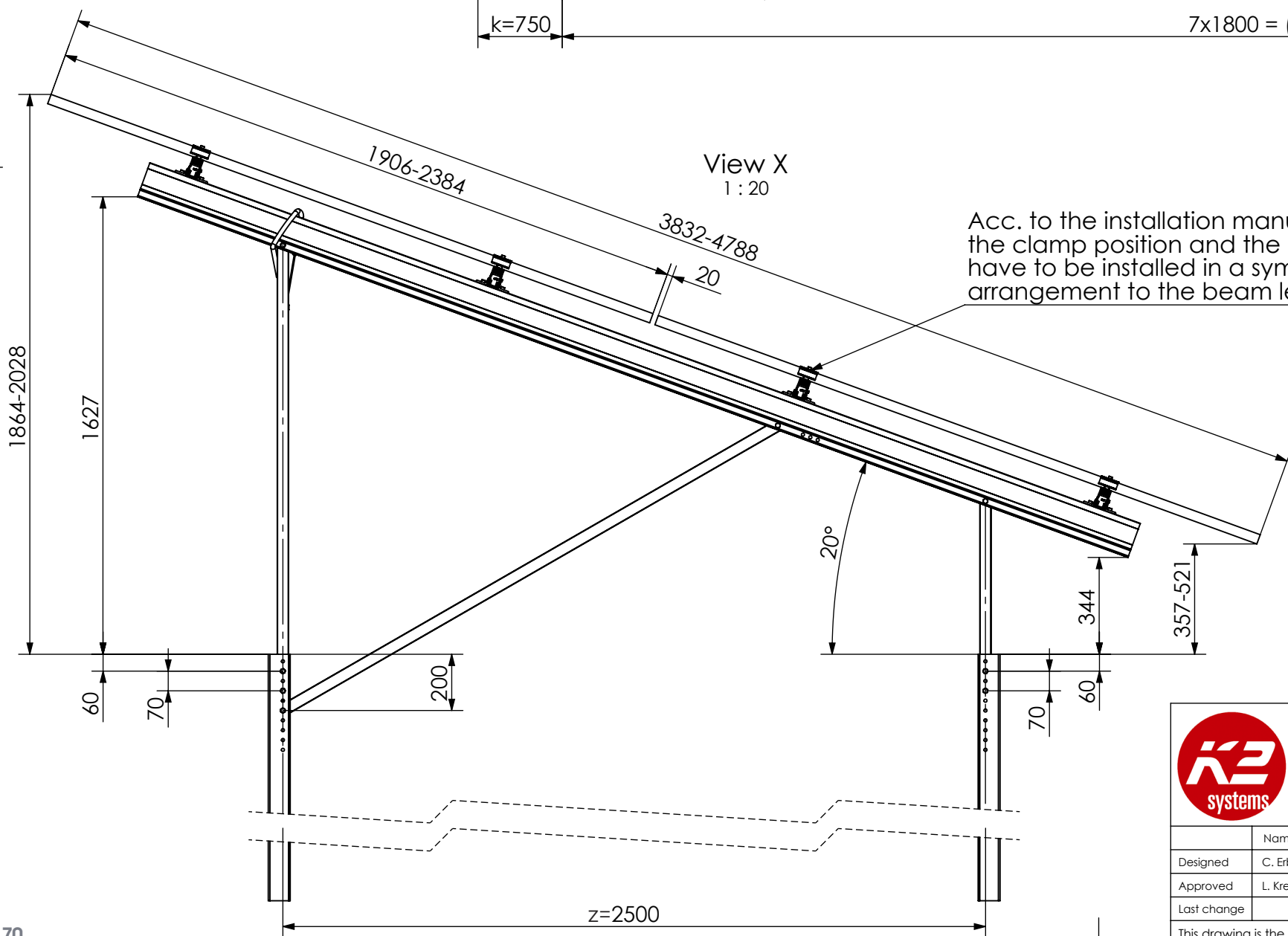
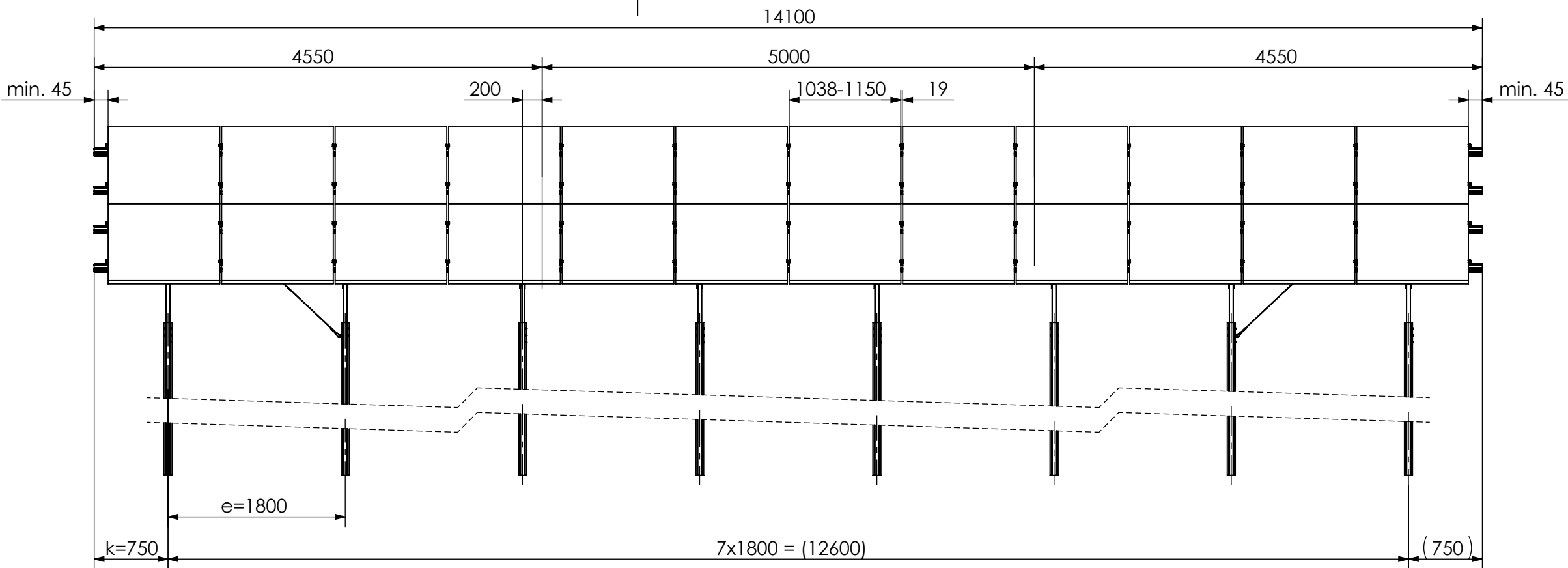
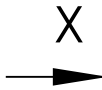


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|                                      |            |                      |            |
|--------------------------------------|------------|----------------------|------------|
| Designation: N-Rack 2.20 Pile 2x12 S |            |                      |            |
| Item no.: -                          |            | A3                   |            |
| Designed                             | C. Erb     | Date                 | 28.01.2026 |
| Approved                             | L. Kreemke | Date                 | 16.03.2026 |
| Last change                          |            | Weight               | -          |
| Surface: -                           |            | Scale: 1:50          |            |
| Drawing no.: -                       |            | All dimensions in mm |            |
|                                      |            | Sheet 1 of 1         |            |

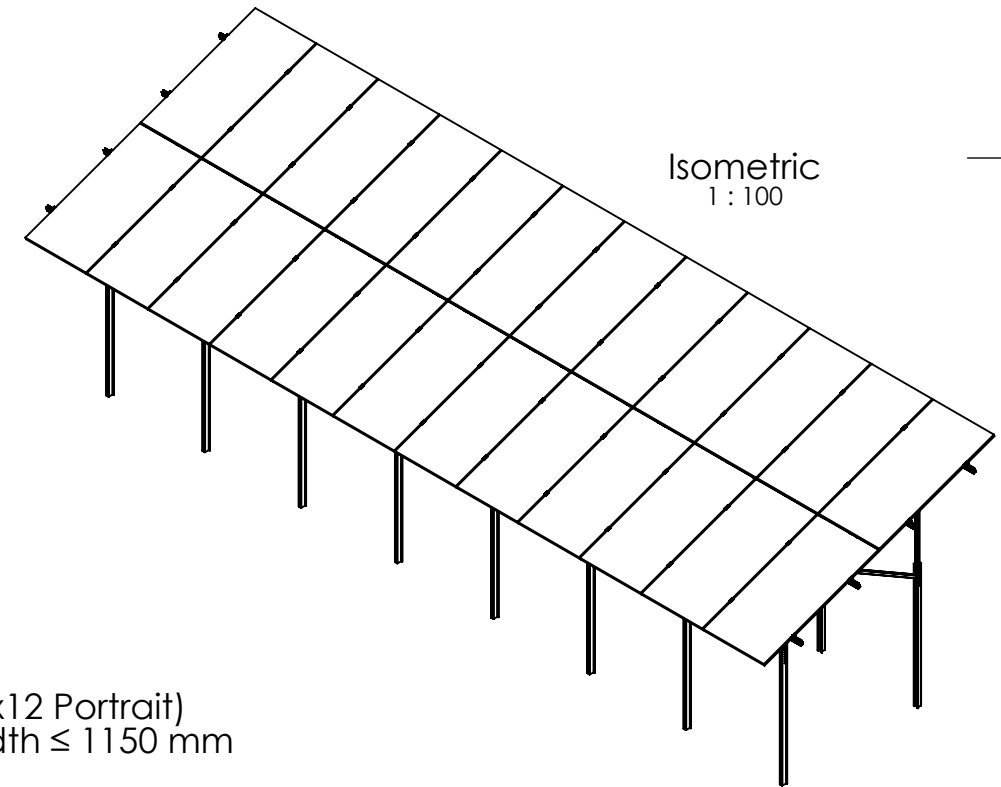
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Pile Kit 2x12 L



View X  
1 : 20

Acc. to the installation manual,  
the clamp position and the modules  
have to be installed in a symmetrical  
arrangement to the beam length.



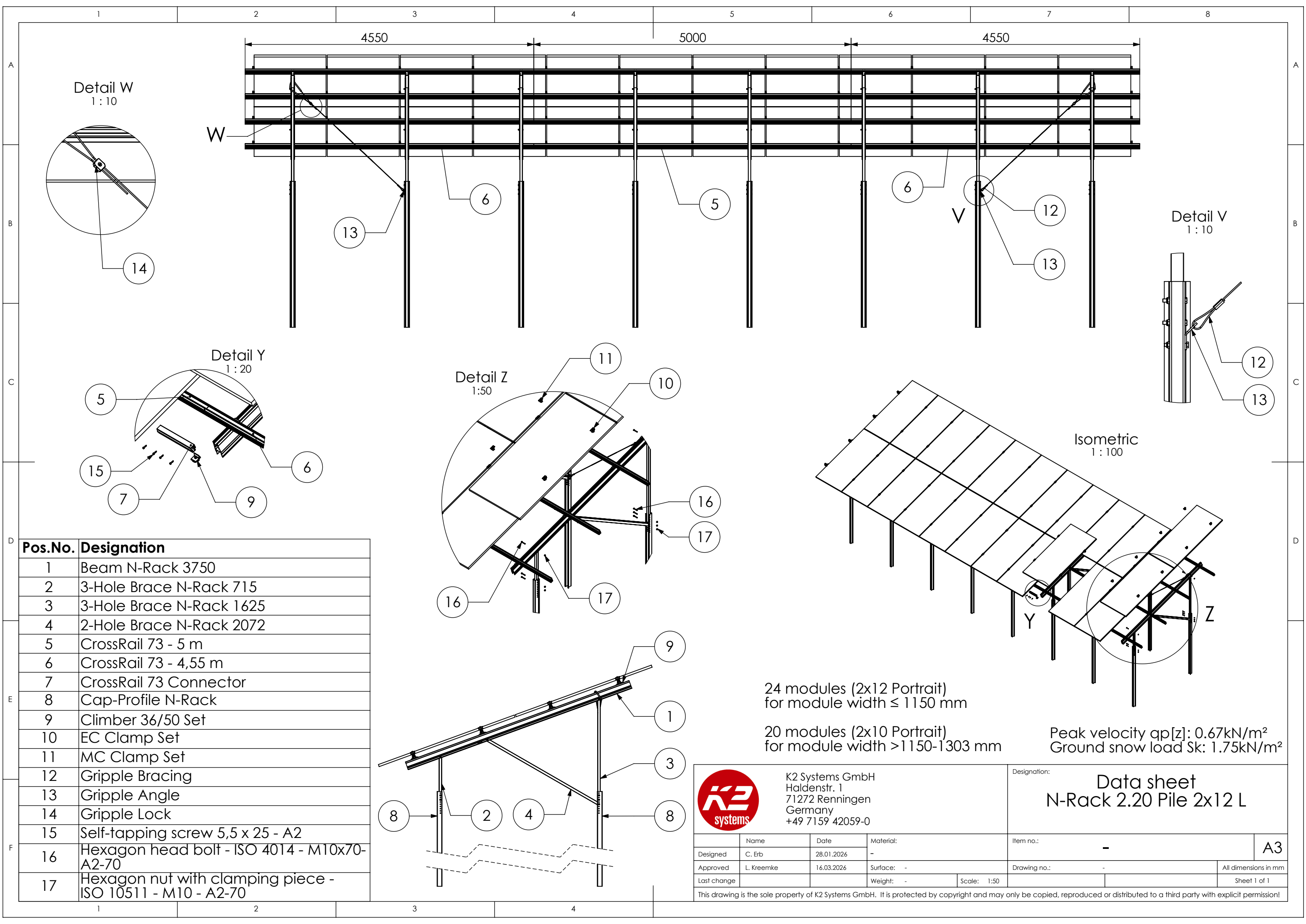
Isometric  
1 : 100

24 modules (2x12 Portrait)  
for module width ≤ 1150 mm

20 modules (2x10 Portrait)  
for module width > 1150-1303 mm

Peak velocity  $q_p[z]$ : 0.67kN/m<sup>2</sup>  
Ground snow load  $S_k$ : 1.75kN/m<sup>2</sup>

|                                                                                                                                                                                        |            |            |            |                                                               |                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|---------------------------------------------------------------|----------------------|
|  <div>K2 Systems GmbH<br/>Haldenstr. 1<br/>71272 Renningen<br/>Germany<br/>+49 7159 42059-0</div> |            |            |            | Designation:<br><b>Data sheet<br/>N-Rack 2.20 Pile 2x12 L</b> |                      |
|                                                                                                                                                                                        | Name       | Date       | Material:  | Item no.:                                                     | A3                   |
| Designed                                                                                                                                                                               | C. Erb     | 28.01.2026 | -          | -                                                             |                      |
| Approved                                                                                                                                                                               | L. Kreemke | 16.03.2026 | Surface: - | Drawing no.:                                                  | All dimensions in mm |
| Last change                                                                                                                                                                            |            |            | Weight: -  | Scale: 1:50                                                   | Sheet 1 of 1         |
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24 modules (2x12 Portrait)  
for module width  $\leq 1150$  mm

20 modules (2x10 Portrait)  
for module width  $>1150-1303$  mm

Peak velocity  $q_p[z]: 0.67\text{kN/m}^2$   
Ground snow load  $S_k: 1.75\text{kN/m}^2$



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|              |   |                         |  |
|--------------|---|-------------------------|--|
| Designation: |   | Data sheet              |  |
|              |   | N-Rack 2.20 Pile 2x12 L |  |
| Item no.:    | - | A3                      |  |
| Drawing no.: | - | All dimensions in mm    |  |
| Sheet 1 of 1 |   |                         |  |

|             |            |            |            |             |
|-------------|------------|------------|------------|-------------|
|             | Name       | Date       | Material:  |             |
| Designed    | C. Erb     | 28.01.2026 | -          |             |
| Approved    | L. Kreemke | 16.03.2026 | Surface: - |             |
| Last change |            |            | Weight: -  | Scale: 1:50 |

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# Connecting Strength

## Vielen Dank, dass Sie sich für ein K2 Montagesystem entschieden haben.

Systeme von K2 Systems sind schnell und einfach zu montieren.  
Wir hoffen, diese Anleitung hat Ihnen dabei geholfen.  
Für Anregungen, Fragen oder Verbesserungsvorschläge stehen wir  
Ihnen gerne zur Verfügung. Alle Kontaktdaten finden Sie unter:

- **k2-systems.com/kontakt**
- **Service-Hotline: +49 7159 42059-0**

Es gelten unsere ALB; einzusehen unter: k2-systems.com

### K2 Systems GmbH

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+49 (0) 7159 - 42059 - 0 · info@k2-systems.com · k2-systems.com

N-Rack Kits Assembly DE V1 | 0926 · Änderungen vorbehalten  
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