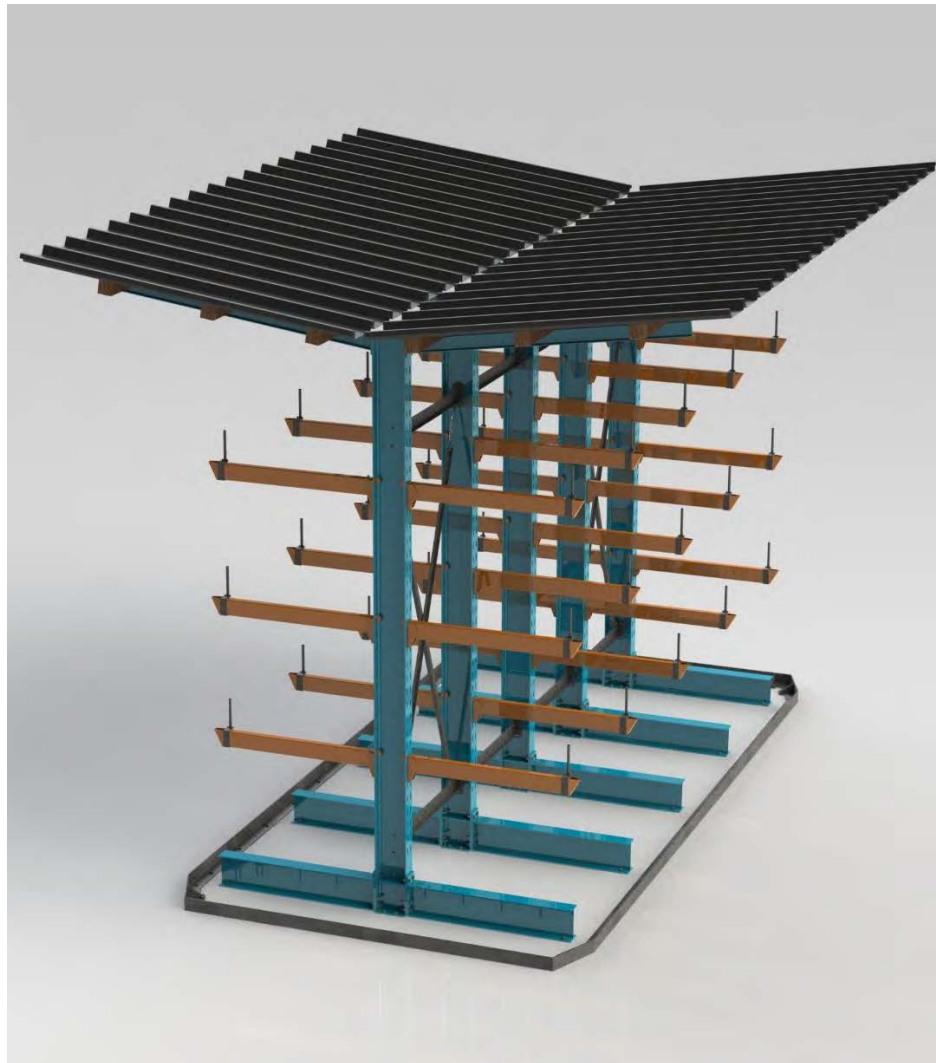


# montage handleiding

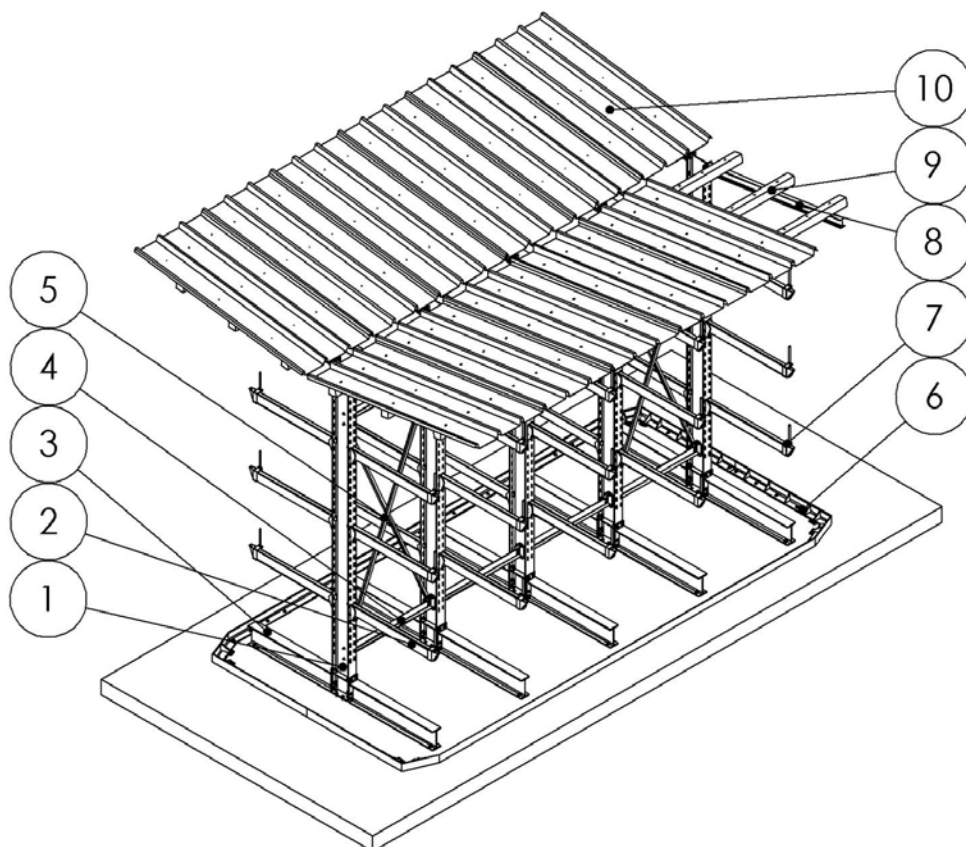
Zware draagarmstellingen  
Heavy duty cantilever racking  
Kragarmregale für Schwerlast  
Rayonnage cantilever

# Draagarmstelling Cantilever racking Kragarmregal Rayonnage cantilever



**Montage- en gebruikershandleiding**  
**Instructions for assembly and use**  
**Aufbau- und Betriebsanleitung**  
**Instructions de montage et d'utilisation**

## Overzicht / Survy / Übersicht / Aperçu



|                                                          |                                                                                   |
|----------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>1</b>                                                 | Staander<br>Column<br>Ständer<br>Mettre                                           |
| <b>2</b>                                                 | Draagarm<br>Cantilever<br>Kragarm<br>Bras                                         |
| <b>3</b>                                                 | Staandervoet<br>Column feet<br>Standerfuß<br>Pied                                 |
| <b>4</b>                                                 | Horizontaalschoor<br>Horizontal brace<br>Horizontalverbinder<br>Entretoise        |
| <b>5</b>                                                 | Diagonaalschoor<br>Cross bracing<br>Diagonalverband<br>Croisillons de liaison     |
| <b>Accessoires / Accessories / Zubehör / Accessoires</b> |                                                                                   |
| <b>6</b>                                                 | Aanrijdbescherming<br>Hit protection<br>Anfahrschutz<br>Protection pied d'échelle |
| <b>7</b>                                                 | Afrolbeveiliging<br>End stop<br>Abrollsicherung<br>Butée                          |
| <b>8</b>                                                 | Dakdrager<br>Roof cantilever<br>Dacharm<br>Bras de toit                           |
| <b>9</b>                                                 | Dakligger<br>Roof support<br>Dachlänge<br>Longerons de toit                       |
| <b>10</b>                                                | Golfplaat<br>Corrugated metal<br>Trapezblech<br>Tôle trapézoïdale                 |

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# Belangrijke richtlijnen / Important regulations / Unbedingt beachten / Réglémentations importantes

Normen  
Design norms  
Ausführung normen  
Normes de référence

- NEN 5052
- NEN 5054
- NEN-EN 15629
- NEN-EN 15635
- Eurocode 0
- Eurocode 1
- Eurocode 3
- Bouwbesluit 2003
- AI 14
- RAL-RG 614
- BGR 234
- Gebruikers dienen rekening te houden met de geldige nationale veiligheidsvoorschriften inzake magazijninrichtingen.
- Users of the installation have to observe the relevant health and safety regulations.
- Benutzer der Installation müssen die relevanten Gesundheits- und Sicherheitsvorschriften kalkulieren.
- En tant que responsable de l'exploitation, veuillez respecter les réglementations de sécurité en vigueur.

Veiligheidsvoorschriften  
Accident prevention regulations  
Sicherheitsvorschriften  
Consignes de sécurité

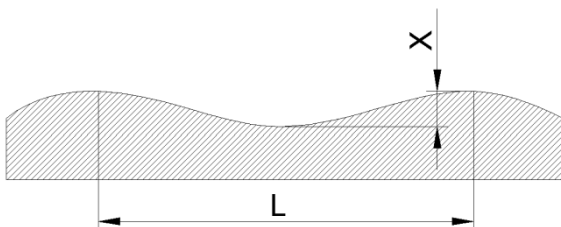
- |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Stelling dient door deskundig personeel te worden gemonteerd.</li> <li>• Wijzigingen in de stellingconfiguratie mogen enkel na statische berekeningen worden genomen.</li> <li>• Beschadigde onderdelen dienen direct te worden vervangen in overleg met de fabrikant.</li> <li>• Elke stelling dient te zijn voorzien van informatie over de draagvermogen van de stelling.</li> </ul> | <ul style="list-style-type: none"> <li>• Stage must be assembled by qualified specialist personnel.</li> <li>• Modifications may only be undertaken after static calculation and clearance by the manufacturer.</li> <li>• Any damaged load-bearing components must be replaced immediately after consultation with the manufacturer.</li> <li>• All racks must be equipped with a notice about load capacity or the installation.</li> </ul> | <ul style="list-style-type: none"> <li>• Die Montage muss von qualifiziertem Fachpersonal durchgeführt werden.</li> <li>• Umbauten dürfen nur nach statischer Berechnung und Freigabe vom Hersteller vorgenommen werden</li> <li>• Bei Beschädigung von tragenden Teilen sind diese nach Rücksprache mit dem Hersteller sofort zu ersetzen.</li> <li>• Jedes Regal ist mit Belastungsschildern oder einem Anlagenschild auszustatten.</li> </ul> | <ul style="list-style-type: none"> <li>• Le montage doit être effectué par un personnel spécialisé dûment qualifié.</li> <li>• Toute modification ne peut être entreprise qu'après un calcul statique et une autorisation effectués par le constructeur.</li> <li>• En cas d'endommagement de parties portantes, celles-ci doivent être immédiatement remplacées après consultation du constructeur.</li> <li>• Chaque étagère doit être pourvue de panneaux mentionnant la charge ou d'un panneau indicateur.</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Vloereigenschappen  
Flooring  
Aufstellfläche  
Qualité du sol

Minimum kwaliteit van de betonvloer  
Minimum quality of the concrete flooring  
Betongüte des Hallenbodens min  
Sol de béto d'une qualité minimum de

**C20/25 DIN 1045**

- Vloeroneffenheden volgens DIN 18202
- For evenness of installation surface see DIN 18202
- Ebenheit des Untergrundes nach DIN 18202
- Planéité du sous-sol selon DIN 18202



| L            | X          |
|--------------|------------|
| L < 1m       | Max. 4 mm  |
| 1m < L < 4m  | Max. 10 mm |
| 4m < L < 15m | Max. 12mm  |
| L > 15m      | Max. 15mm  |

Draagvermogen  
Load Capacity  
Belastung  
Capacité de charge

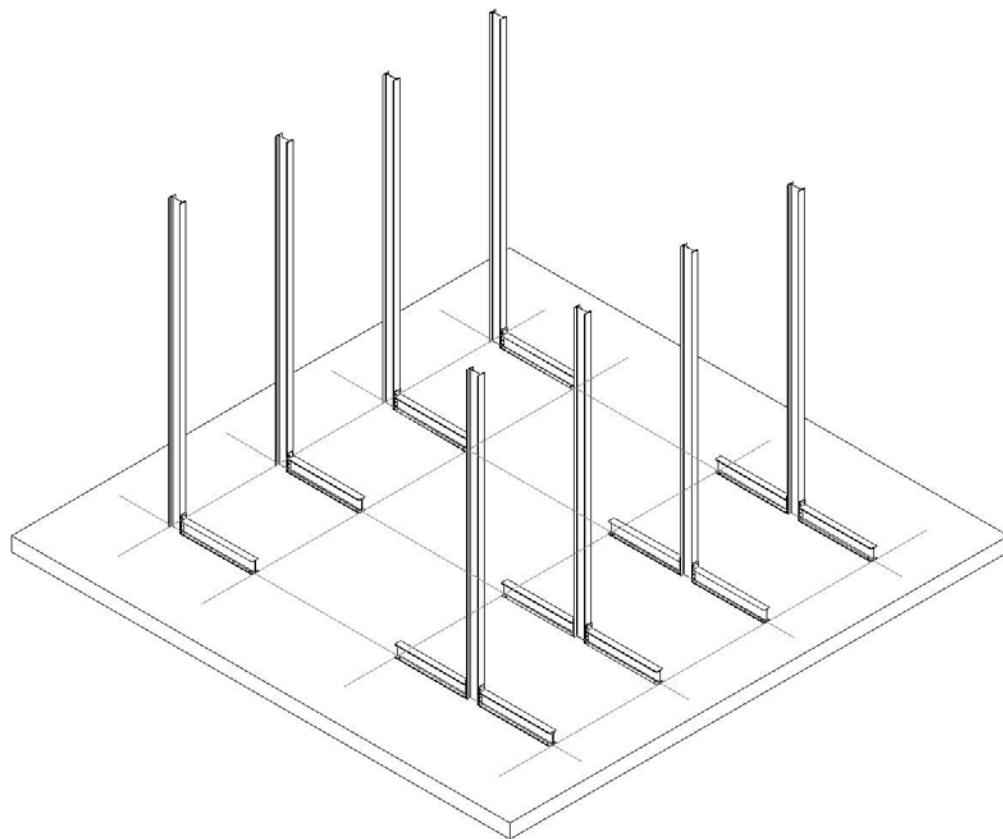
- |                                                                                                                                                                                                         |                                                                                                                                                                                                |                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Stellingen zijn berekend op een sneeuwbelasting van max. 75 kg/m<sup>2</sup> en een windbelasting gebied I terreincategorie III zoals in Eurocode 1</li> </ul> | <ul style="list-style-type: none"> <li>• Outdoor cantilever racks are mainly designed for max. 75 kg/m<sup>2</sup> snow load and wind load zone I terrain type III as in Eurocode 1</li> </ul> | <ul style="list-style-type: none"> <li>• Die Kragarmregale im Freien sind im Regelfall für max. 75 kg/m<sup>2</sup> schneelasten sowie für Windlastzone I Geländekategorie III gemäß Eurocode 1</li> </ul> | <ul style="list-style-type: none"> <li>• Pour une installation à l'extérieur, les bras sont, en règle générale, conçus pour une charge de neige d'un max. de 75 kg/m<sup>2</sup> ainsi que pour une zone de pression de vent I catégorie de terrain III selon Eurocode 1</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 1.0 Staander posities aftekenen

1.0 Draw in rack position

1.0 Regalposition aufzeichnen

1.0 Tracer le positionnement de l'étagère

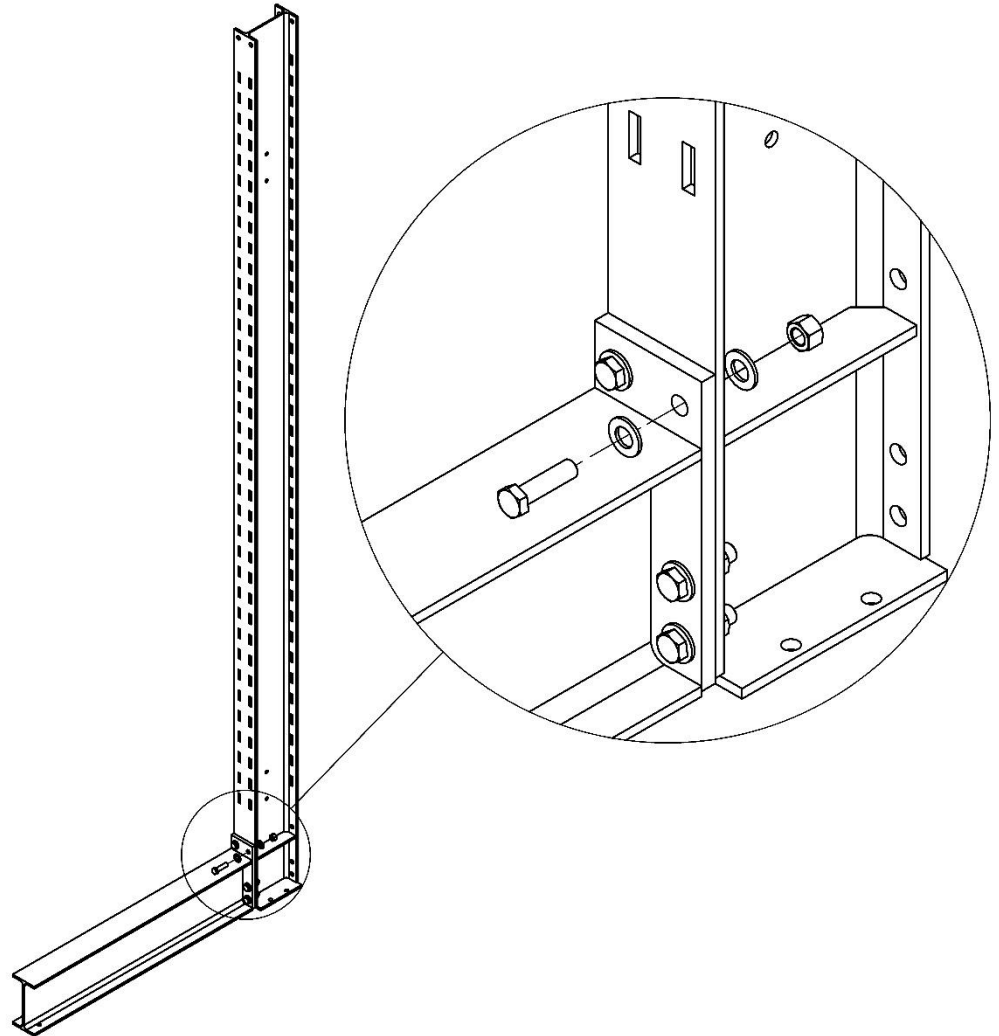


## 2.0 Staander enkelzijdig monteren

2.0 Bolting one-sided rack

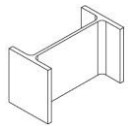




2.0 Ständer einseitig verschrauben

2.0 Visser les montants simples



(1) Indoor/outdoor rack  
(1) Partie intérieure/extérieure  
(1) Lato interno/esterno

(2) Galvanised  
(2) Zingué  
(2) Zincato

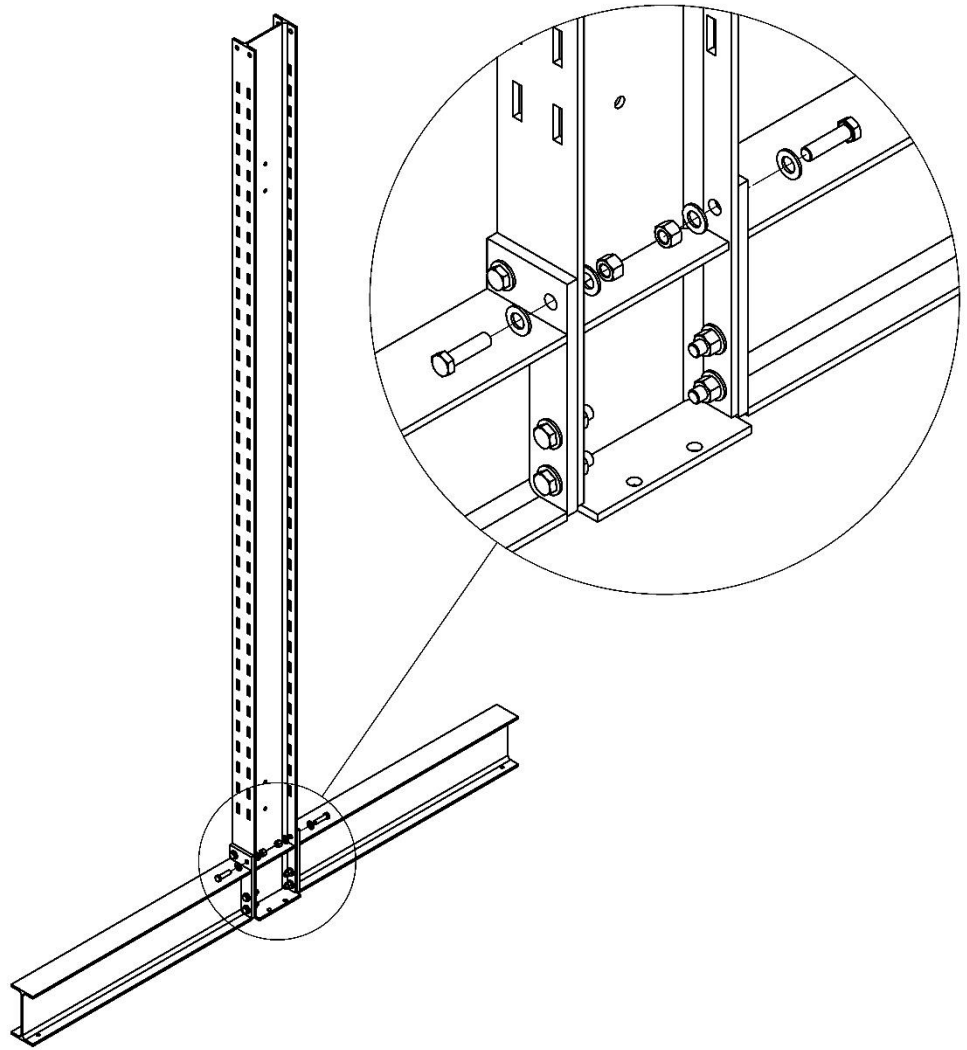
| Binnen/buiten stelling (1)                                                          |     | Verzinkt (2)                                                                                    |                                                                                                   |                                                                                               |                                                                                       |
|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | Nr. |  DIN 931/8.8 |  DIN 934/8.8 |  DIN 125 |  |
| 160                                                                                 | 6x  | M12X40                                                                                          | M12                                                                                               | Ø 13                                                                                          | 100 Nm                                                                                |
| 180                                                                                 | 6x  | M16x60                                                                                          | M16                                                                                               | Ø 17                                                                                          | 250 Nm                                                                                |
| 200                                                                                 | 6x  | M16x60                                                                                          | M16                                                                                               | Ø 17                                                                                          | 250 Nm                                                                                |
| 220                                                                                 | 6x  | M16x60                                                                                          | M16                                                                                               | Ø 17                                                                                          | 250 Nm                                                                                |
| 240                                                                                 | 6x  | M16x60                                                                                          | M16                                                                                               | Ø 17                                                                                          | 250 Nm                                                                                |
| 270                                                                                 | 6x  | M20x70                                                                                          | M20                                                                                               | Ø 21                                                                                          | 450 Nm                                                                                |
| 300                                                                                 | 6x  | M20x70                                                                                          | M20                                                                                               | Ø 21                                                                                          | 450 Nm                                                                                |

## 3.0 Staander dubbelzijdig monteren

3.0 Bolting two-sided rack

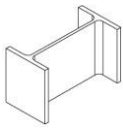




3.0 Ständer zweiseitig verschrauben

3.0 Visser les montants doubles



(1) Indoor/outdoor rack  
(1) Innen- und Außenbereich  
(1) Partie intérieure/extérieure

(2) Galvanized  
(2) Verzinkt  
(2) Zingué

| Binnen/buiten stelling (1)                                                          | Verzinkt (2) |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |              |  |  |  |  |
| Nr.                                                                                 | DIN 931/8.8  | DIN 934/8.8                                                                         | DIN 125                                                                               |                                                                                       |                                                                                       |
| 160                                                                                 | 6x M12X40    | M12                                                                                 | Ø 13                                                                                  | 100 Nm                                                                                |                                                                                       |
| 180                                                                                 | 6x M16x60    | M16                                                                                 | Ø 17                                                                                  | 250 Nm                                                                                |                                                                                       |
| 200                                                                                 | 6x M16x60    | M16                                                                                 | Ø 17                                                                                  | 250 Nm                                                                                |                                                                                       |
| 220                                                                                 | 6x M16x60    | M16                                                                                 | Ø 17                                                                                  | 250 Nm                                                                                |                                                                                       |
| 240                                                                                 | 6x M16x60    | M16                                                                                 | Ø 17                                                                                  | 250 Nm                                                                                |                                                                                       |
| 270                                                                                 | 6x M20x70    | M20                                                                                 | Ø 21                                                                                  | 450 Nm                                                                                |                                                                                       |
| 300                                                                                 | 6x M20x70    | M20                                                                                 | Ø 21                                                                                  | 450 Nm                                                                                |                                                                                       |

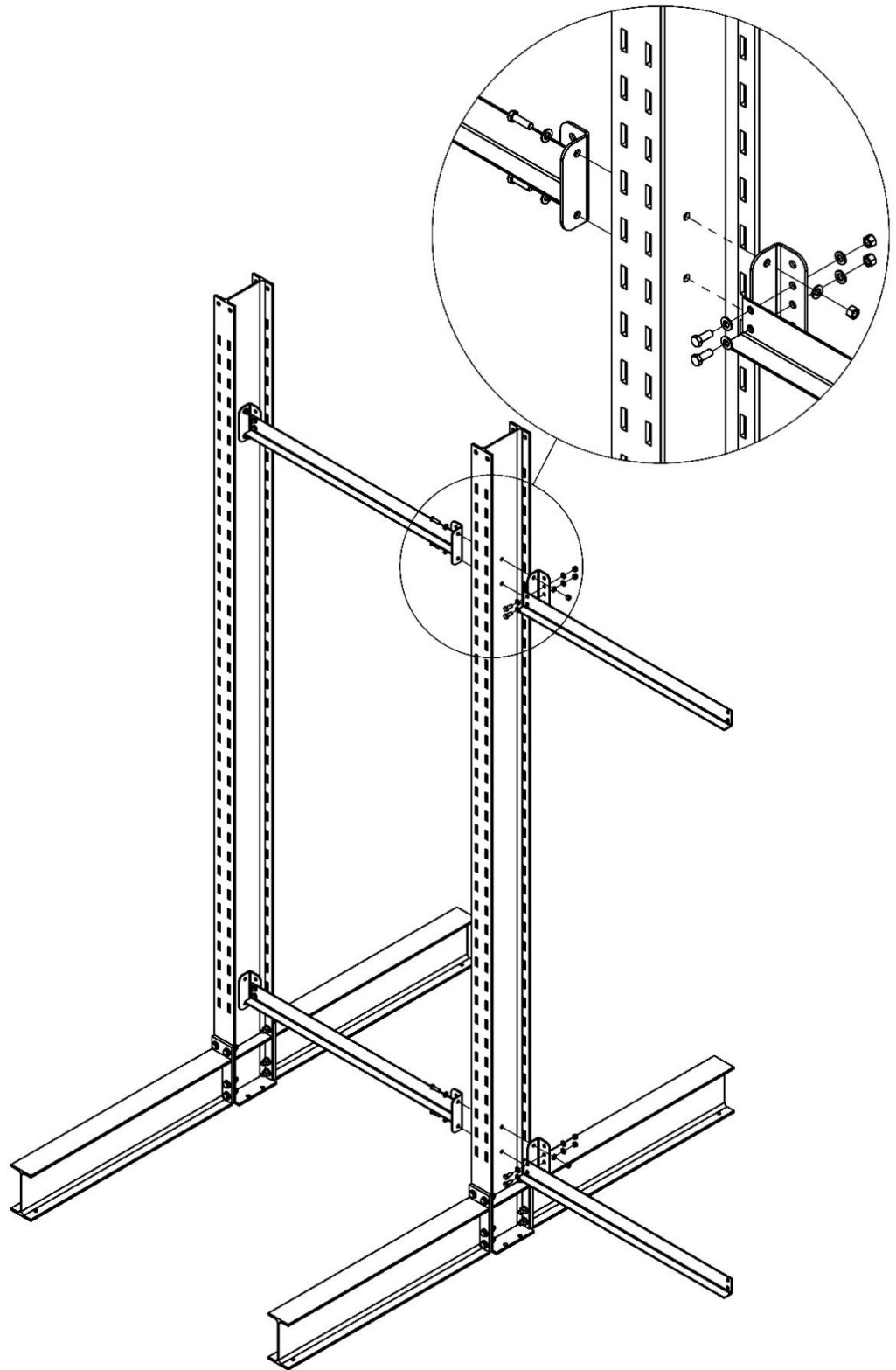






## 4.0 Schoring horizontaal monteren

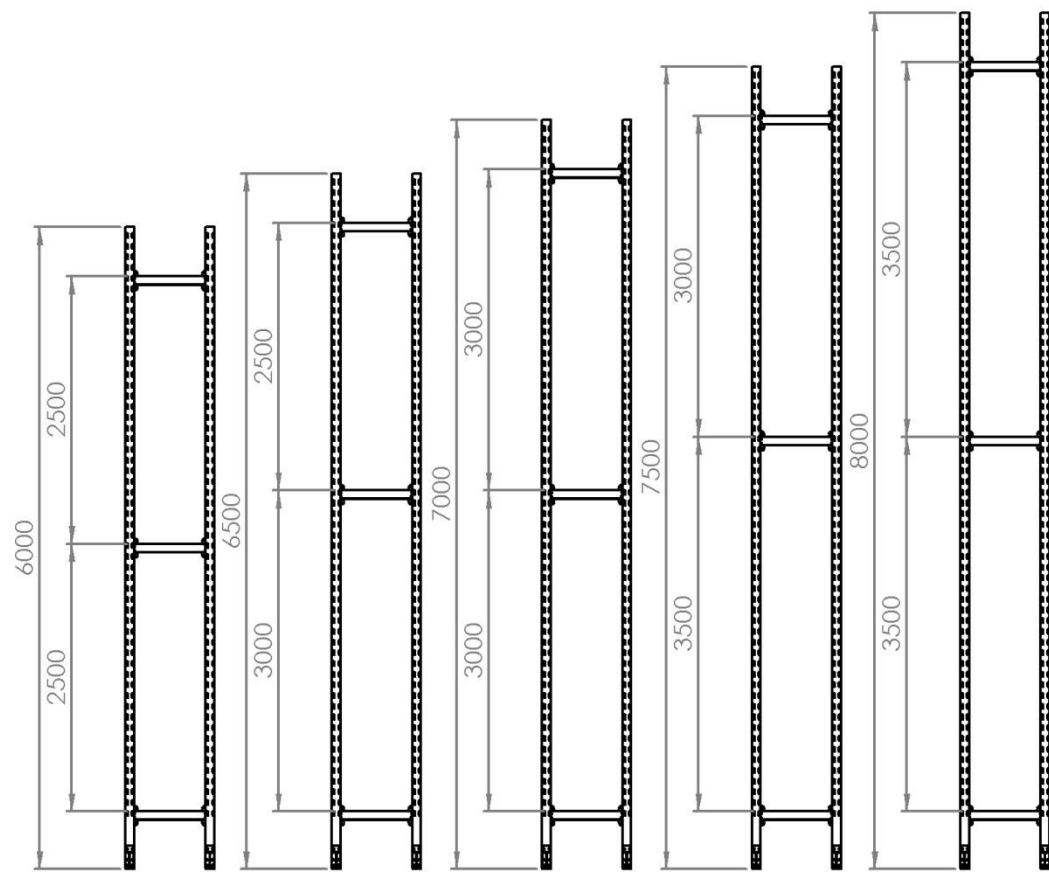
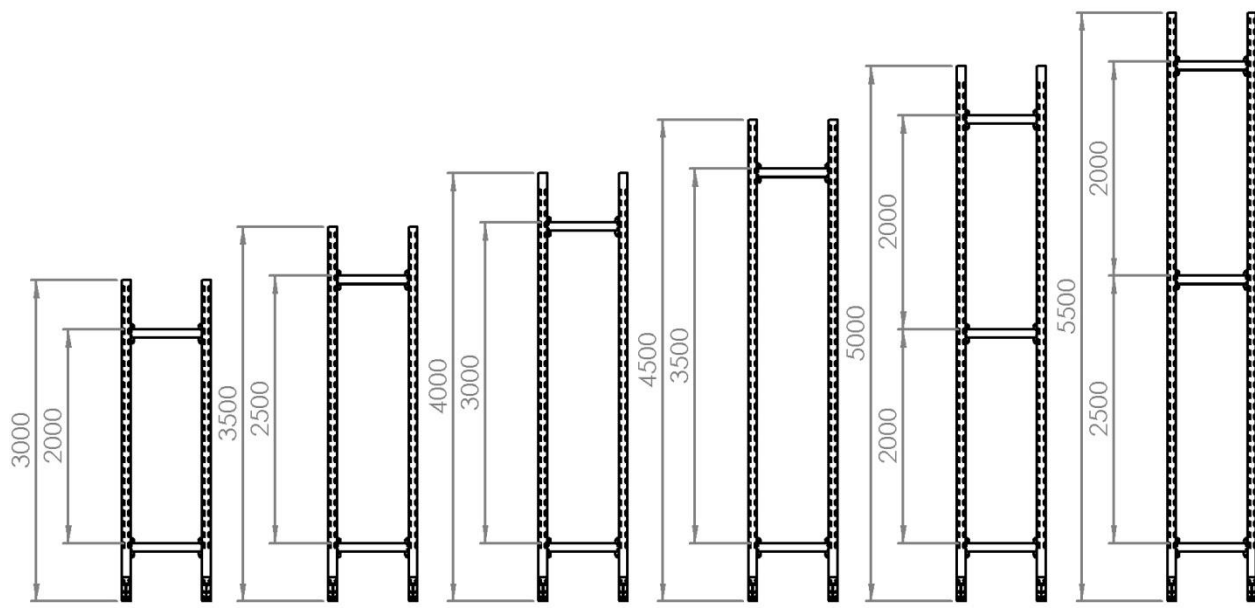
4.0 Assemble  
horizontal brace

4.0 Horizontalverbinder  
monteren

4.0 Monter entretoise



|                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| <b>DIN 933/8.8</b>                                                                  | <b>DIN 934/8.8</b>                                                                  | <b>DIN 125</b>                                                                        |                                                                                       |
| <b>M12X40</b>                                                                       | <b>M12</b>                                                                          | <b>Ø 13</b>                                                                           | <b>100 Nm</b>                                                                         |
| <b>M12X25</b>                                                                       | <b>M12</b>                                                                          | <b>Ø 13</b>                                                                           | <b>100 Nm</b>                                                                         |



## 5.0 Schoring diagonaal monteren

### 5.0 Assemble Cross bracing

### 5.0 Diagonalverband montieren

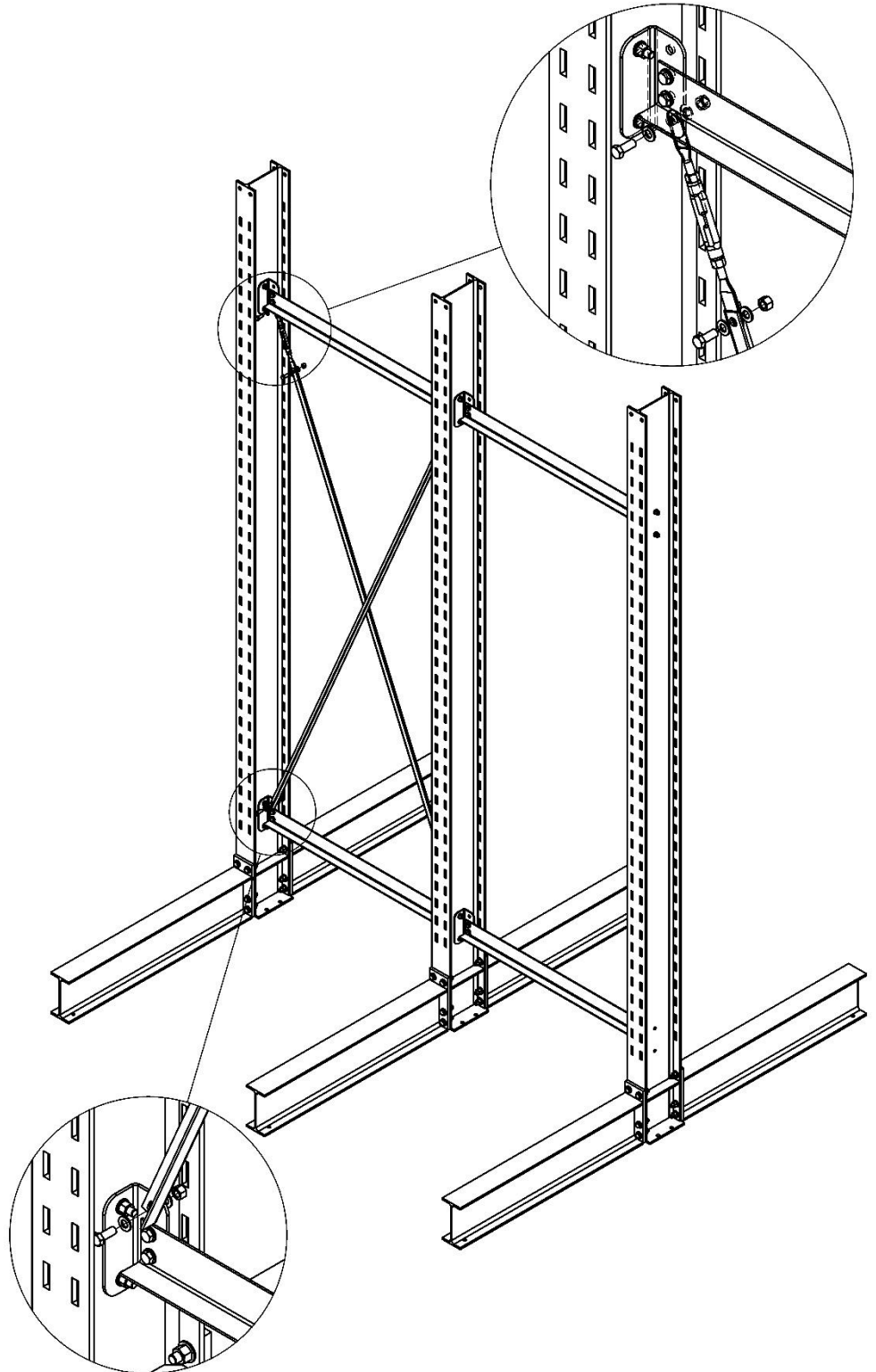
### 5.0 Monter croisillons de liaison





Binnen toepassing / inside use  
/ binenbereich / demande  
intérieure

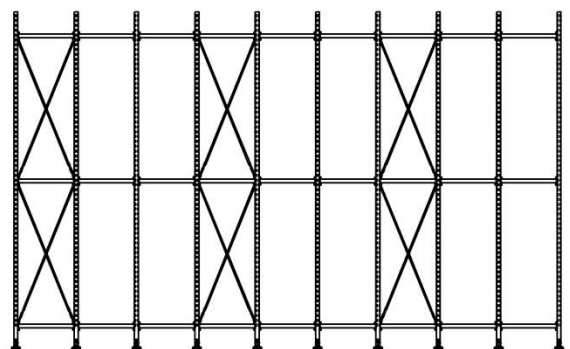
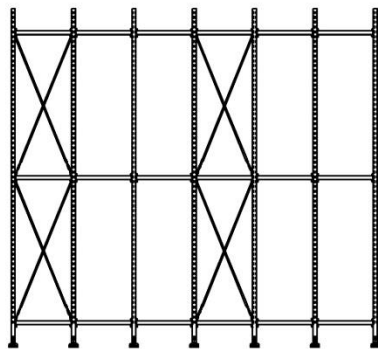
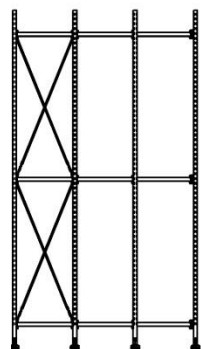
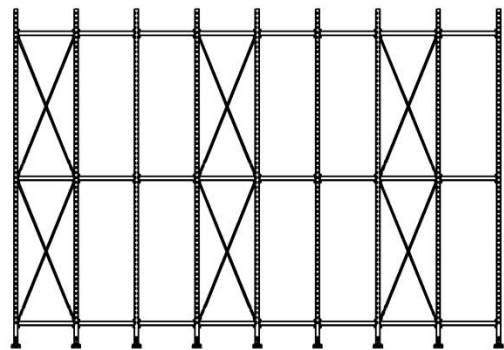
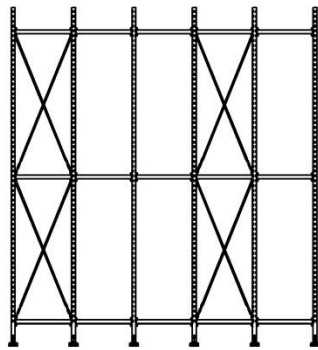
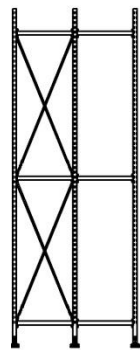
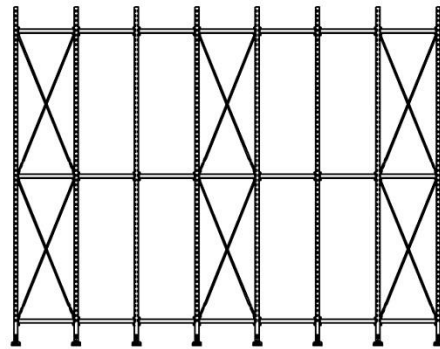
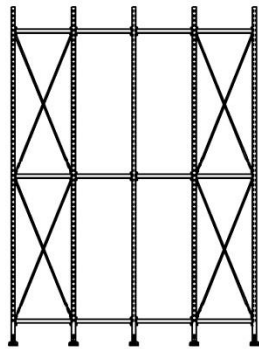
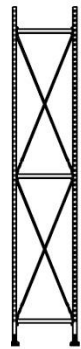
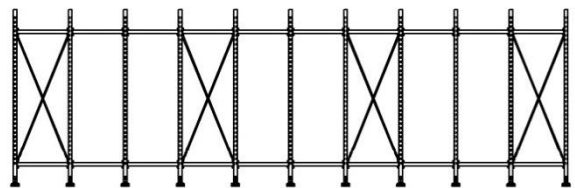
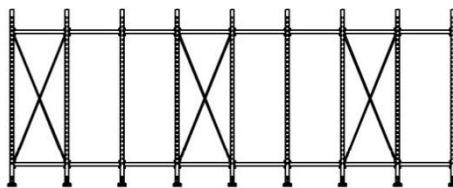
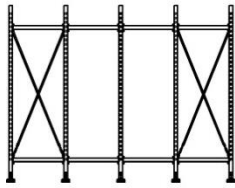
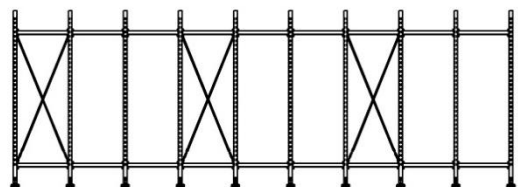
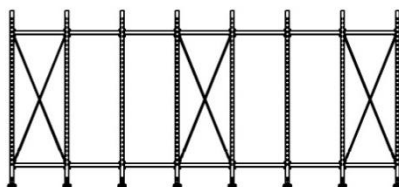
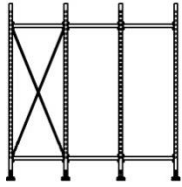
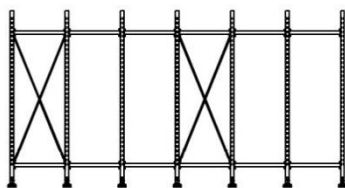
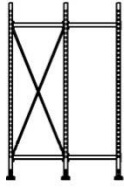
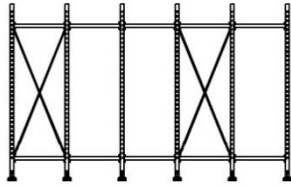
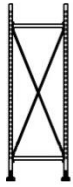
- Per 5 secties, 1 kruisschoor
- For every 5 bays, 1 cross bracing
- Je 5 Felder = 1 diagonalverband
- Par 5 travées = 1 croisillon

buiten toepassing / outside  
use / outdooreinsatz /  
inappleble

- Per 3 secties, 1 kruisschoor
- For every 3 bays, 1 cross bracing
- Je 3Felder = 1 diagonalverband
- Par 3 travées = 1 croisillon



|                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| <b>DIN 933/8.8</b>                                                                  | <b>DIN 934/8.8</b>                                                                  | <b>DIN 125</b>                                                                        |                                                                                       |
| <b>M12X25</b>                                                                       | <b>M12</b>                                                                          | <b>Ø 13</b>                                                                           | <b>100 Nm</b>                                                                         |



**Binnen toepassing / inside use /  
binenbereich / demande intérieure**

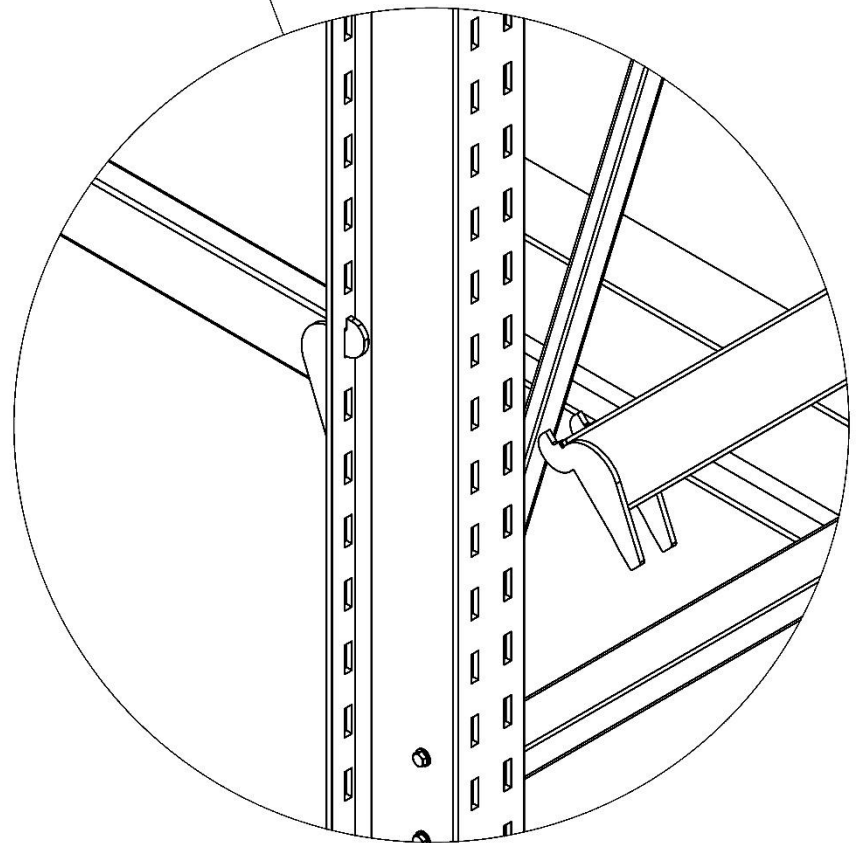
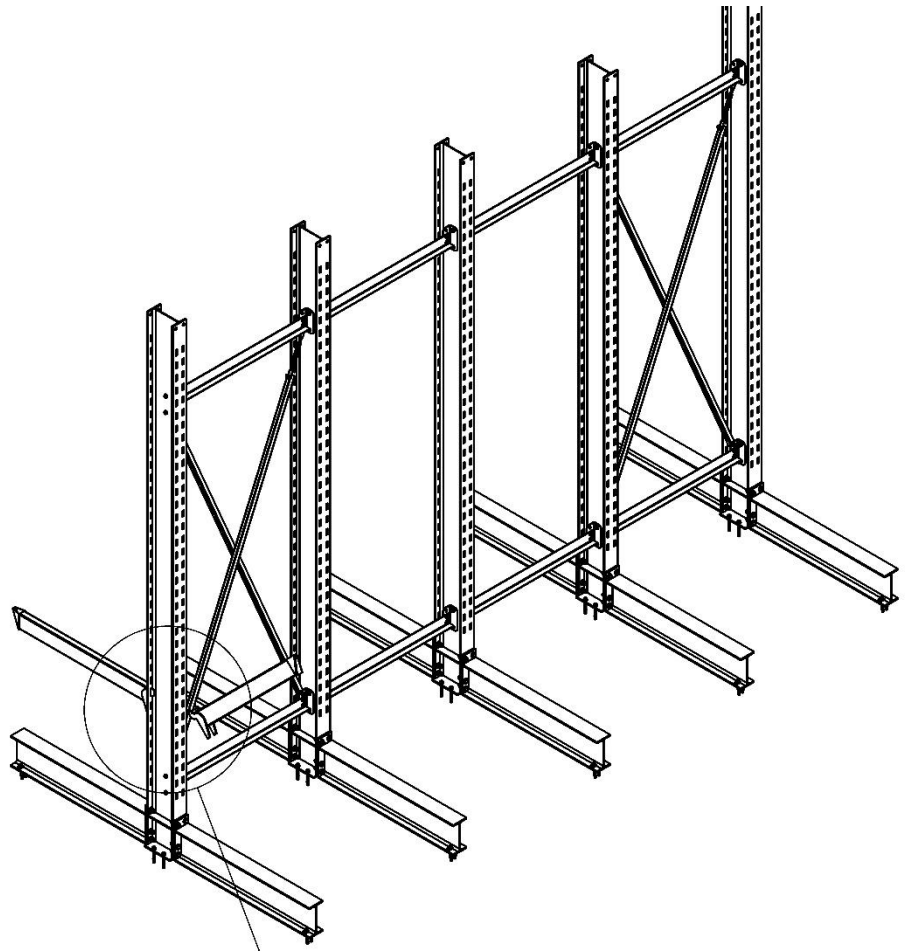
- Per 5 secties, 1 kruisschoor
- For every 5 bays, 1 cross bracing
- Je 5 Felder = 1 diagonalverband
- Par 5 travées = 1 croisillon

## 6.0 Inhaken draagarm

6.0 Hook in arm

6.0 Einhängen kragarm

6.0 Emboîter le bras



## 7.0 Stelling uitwaterpassen

Verticale afwijkingen afstellen met opvulplaten en spanwartels

### 7.1 Cantilever rack adjustment

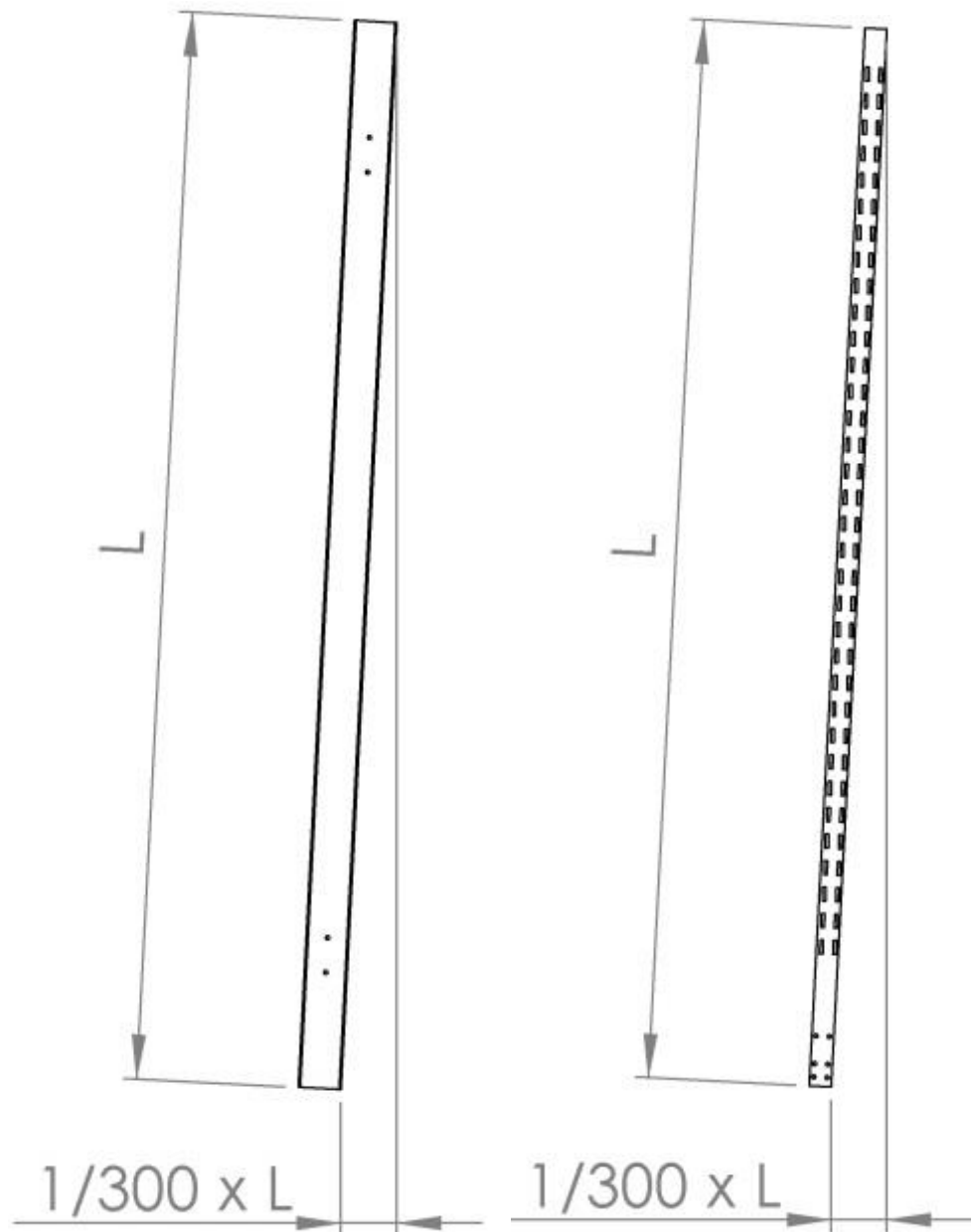
Vertical deviation should be adjusted with underlay plates and turnbuckle

### 7.1 Kragarmregal ausrichten

vertikale afwijkingen met onderlegblechen und spannschloss justieren

### 7.0 Positionnement de l'étagère cantilever

Égaliser les écarts verticaux au moyen de plaques métalliques et d'un tendeur à vis



## 8.0 Stelling verankeren

Rek verankeren  
2 ankers per staander  
2 ankers per voet

### 8.0 Rack anchorage

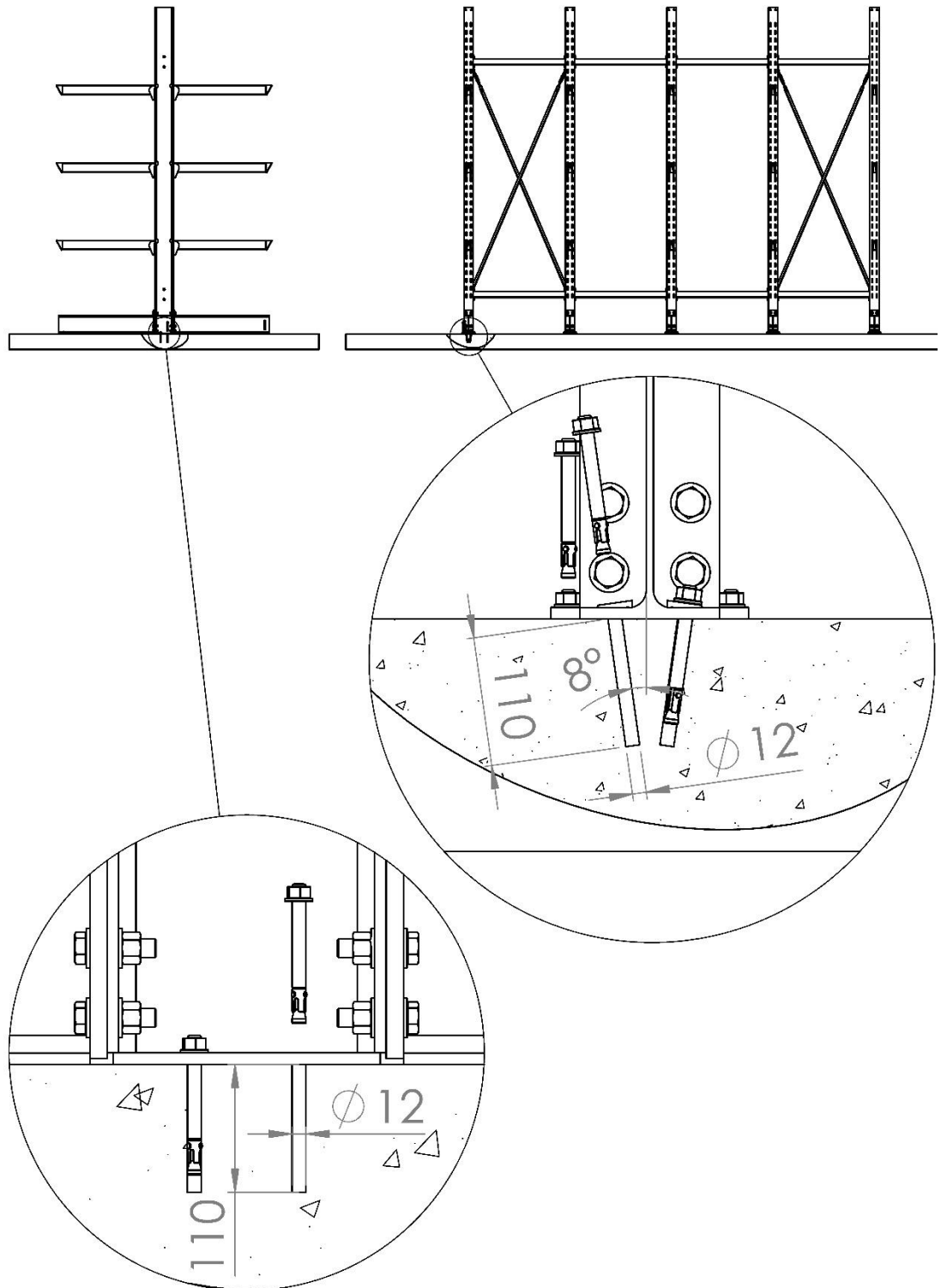
2 steel anchors per column  
2 steel anchors per foot


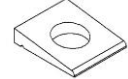
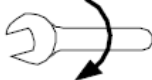
### 8.0 Regale verankerung

2 Stahlanker je ständer  
2 Stahlanker je fuß

### 8.0 Visser les montants Ancrage

2 ancras en acier par montant  
2 ancras en acier par pied



|                                                                                       |             |
|---------------------------------------------------------------------------------------|-------------|
|   | M12x100     |
|  | Ø14 DIN 435 |
|  | 70 Nm       |

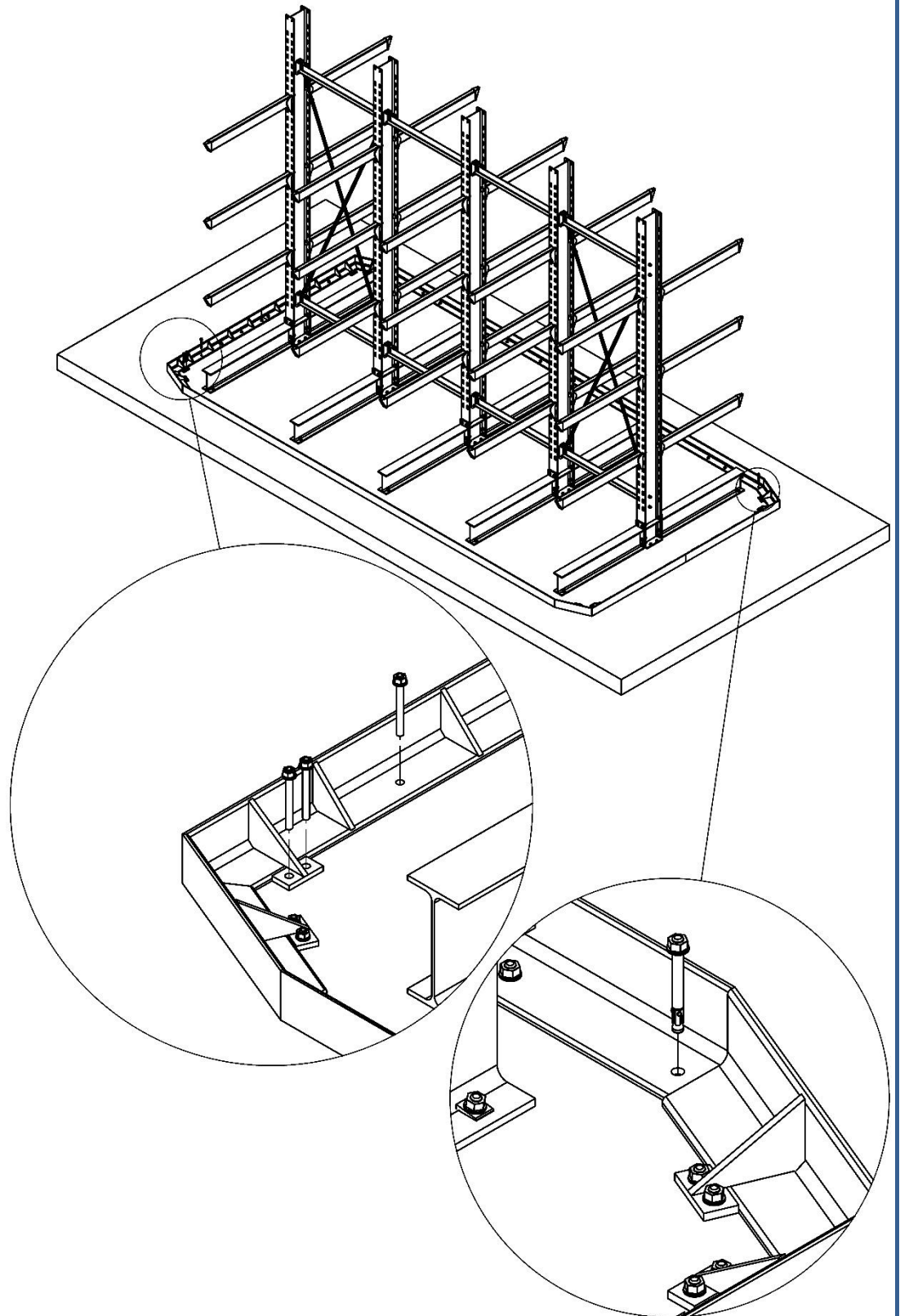
## 9.0 Aanrijdbescherming



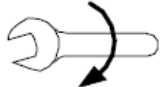
### 9.0 Hit protection

### 9.0 Anfahrerschutz

### 9.0 Protection pied d'échelle

- (1) - Chemisch ankers
- Chemical anchors
- Verbundanker
- Ancrage chimique



|                                                                                          |         |
|------------------------------------------------------------------------------------------|---------|
|      | M12x100 |
|  (1) | M12x160 |
|     | 70 Nm   |

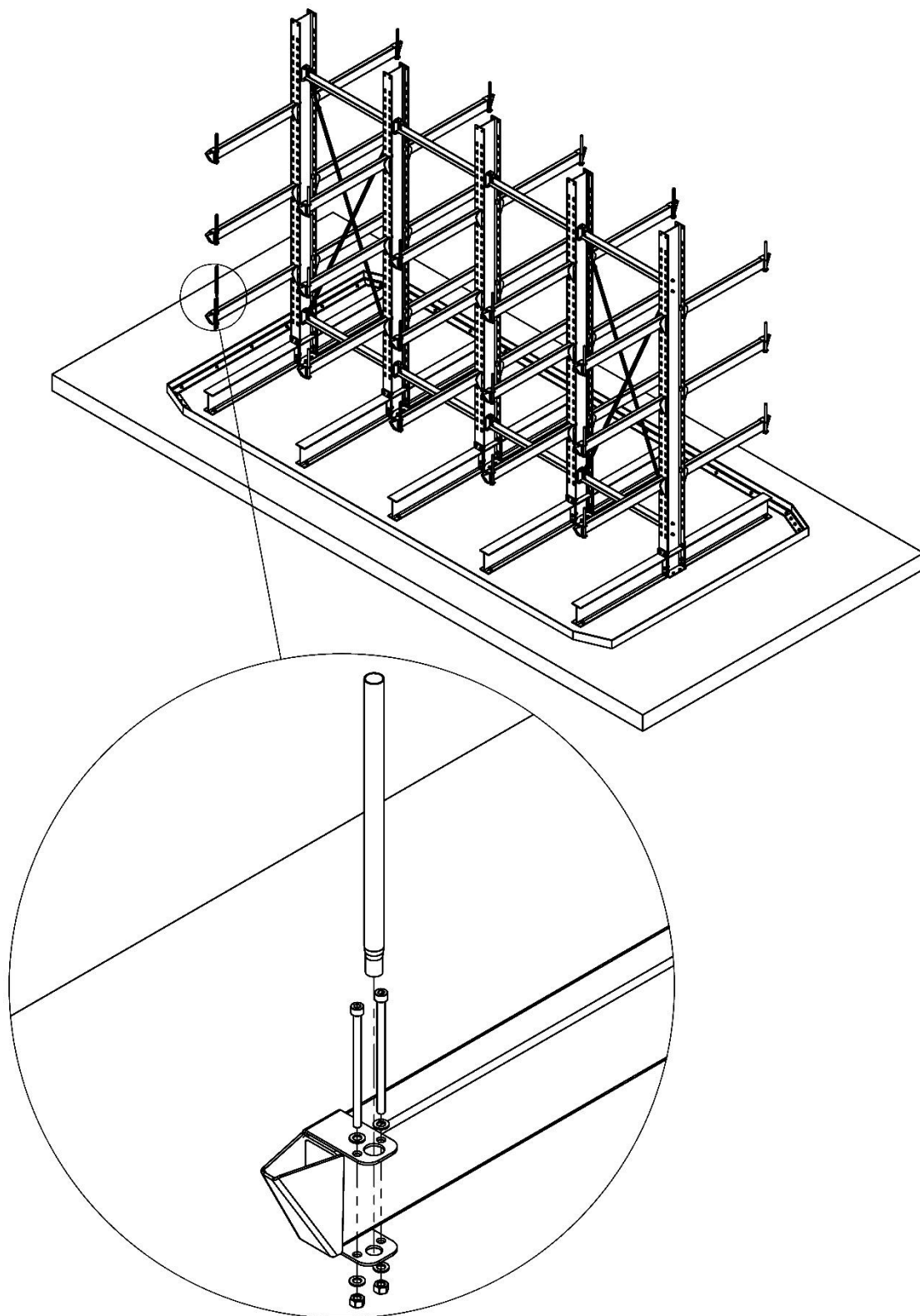


## 10.0 Afrolbeveiliging

10.0 End stop

10.0  
Abrollsicherung

10.0 Butée



## 11.0 Dak

11.0 Roof

11.0 Dach

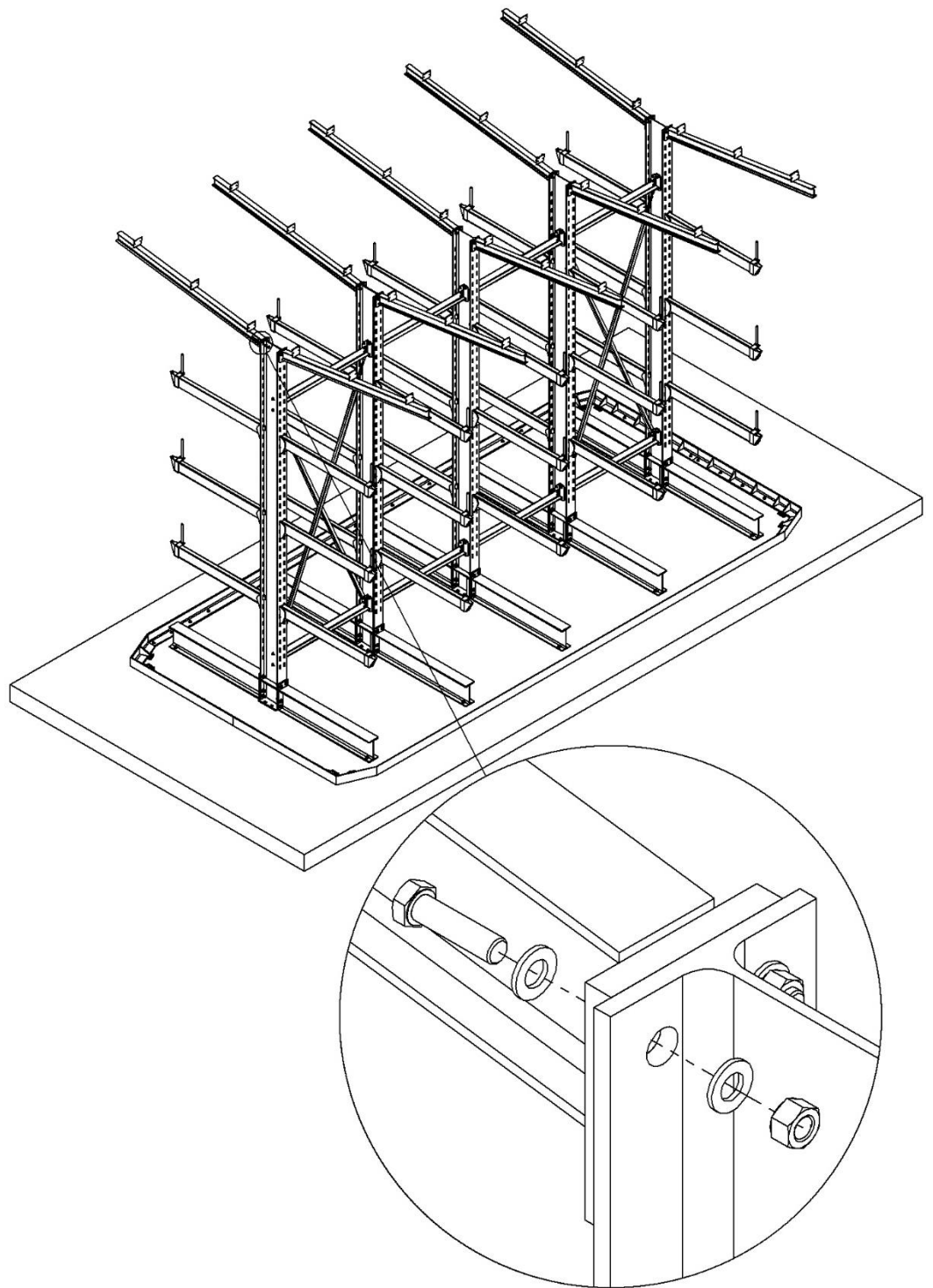
11.0 Toiture





11.1 Dakdrager

11.1 Roof cantilever

11.1 Dacharm

11.1 Arbre de la toiture



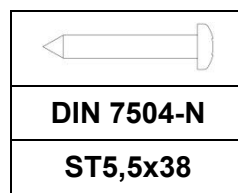
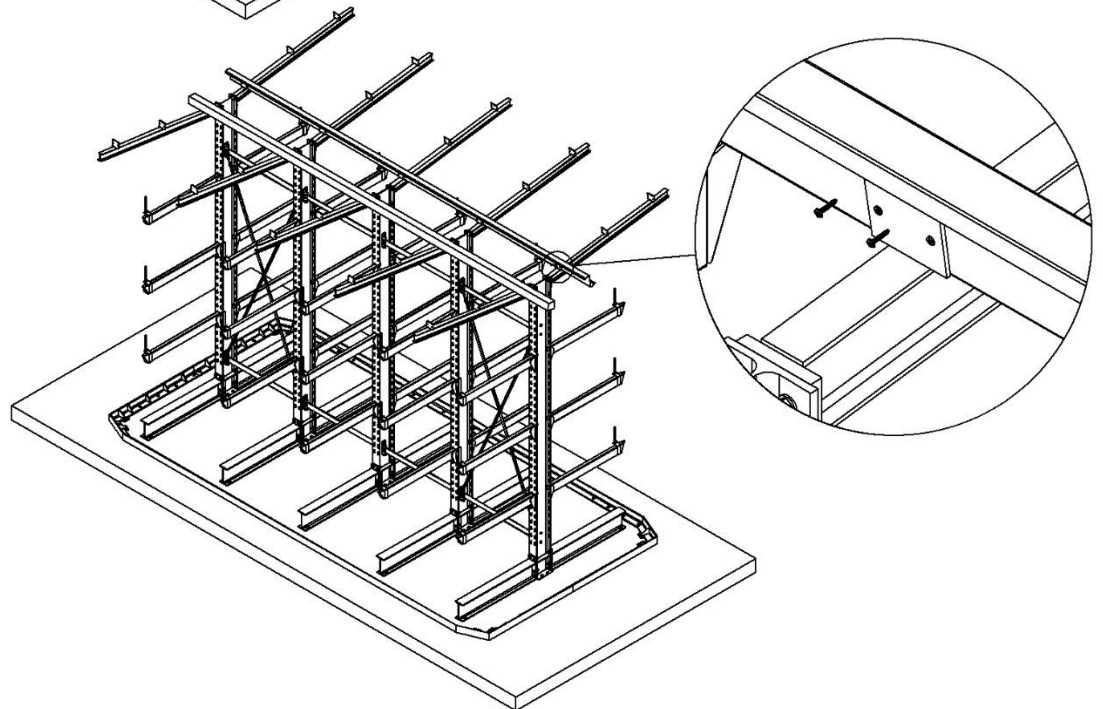
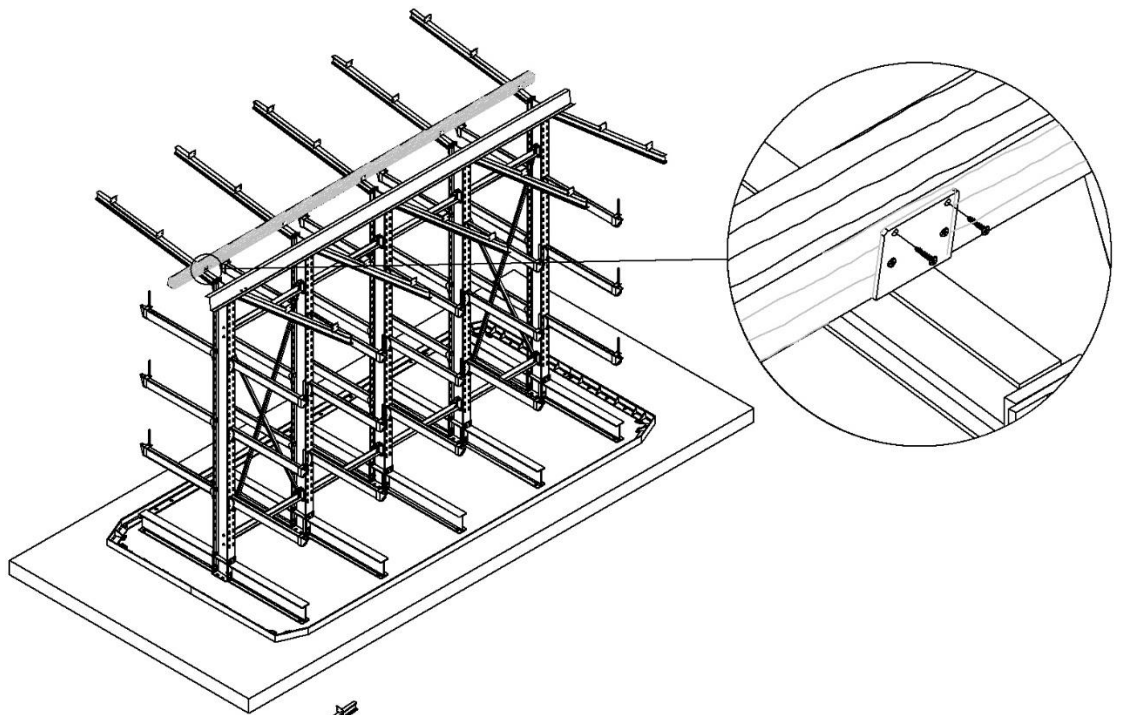
|                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| DIN 933/8.8                                                                         | DIN 934/8.8                                                                         | DIN 125                                                                               |                                                                                       |
| M16X40                                                                              | M16                                                                                 | Ø 17                                                                                  | 250 Nm                                                                                |

## 11.2 Dakligger & Golfplaat

11.2 Roof support  
& Corrugated metal

11.2 Dachlänge  
& Trapezblech

11.2 Longerons de  
toit & Tôle  
trapézoïdale

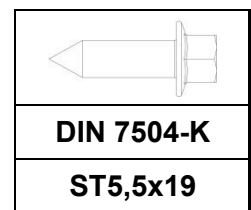
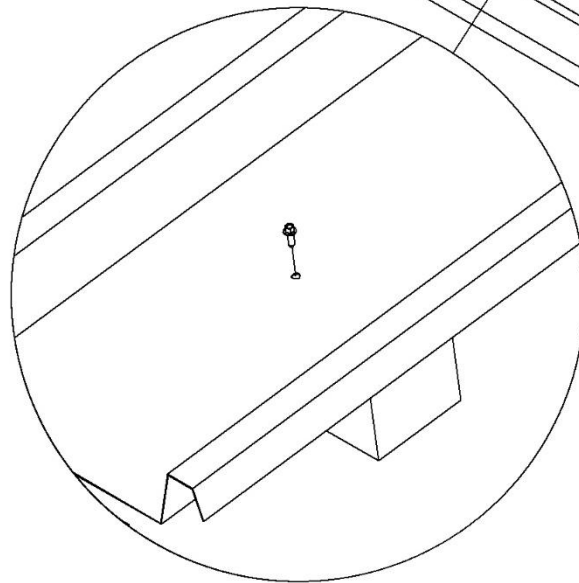
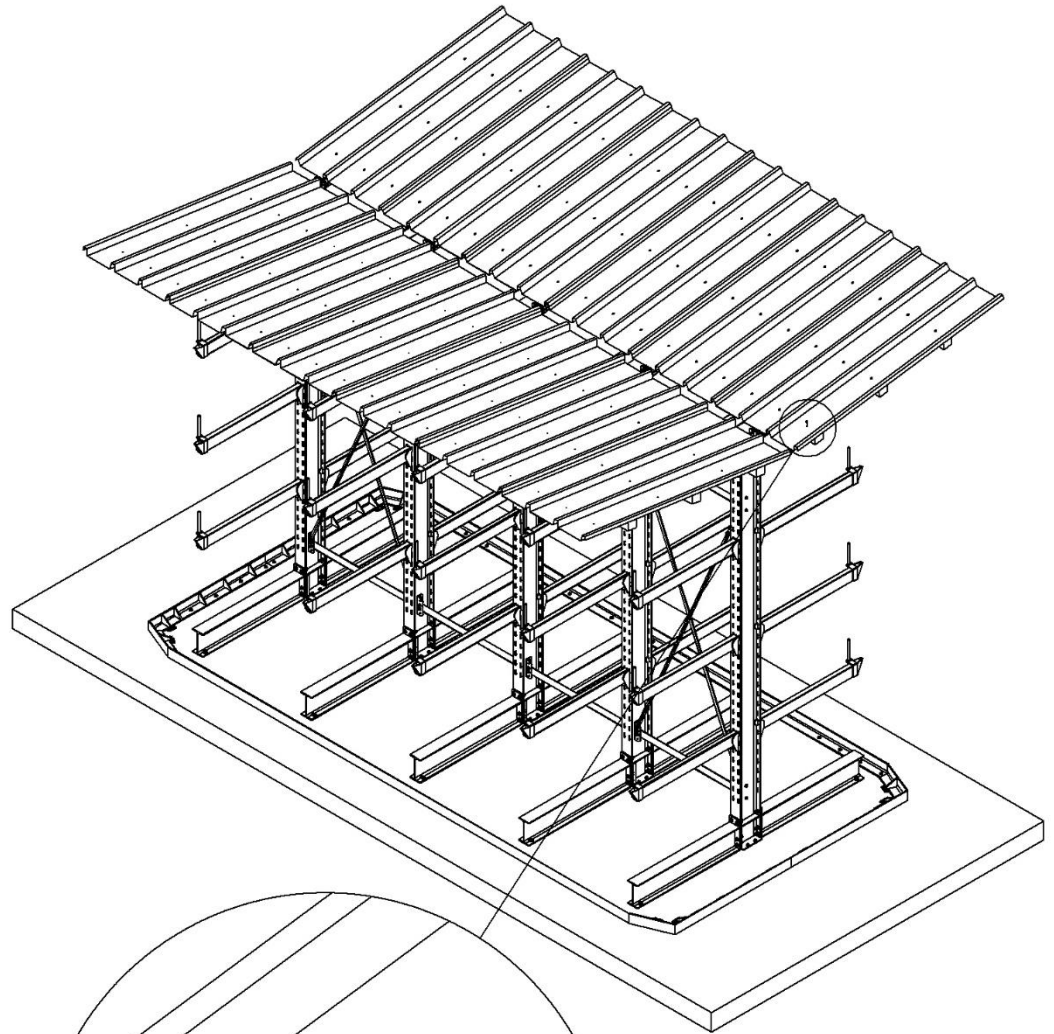


## 11.2 Dakligger & Golfplaat

11.3 Roof support  
& Corrugated metal

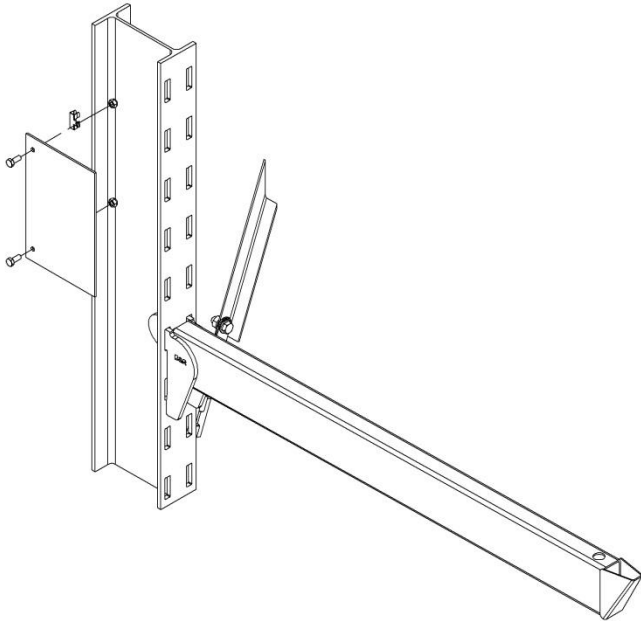
11.3 Dachlänge  
& Trapezblech

11.3 Longerons de  
toit & Tôle  
trapézoïdale



# Gebruiksaanwijzingen / Use specifications / Gebrauchsspezifikation spécification d'utilisation

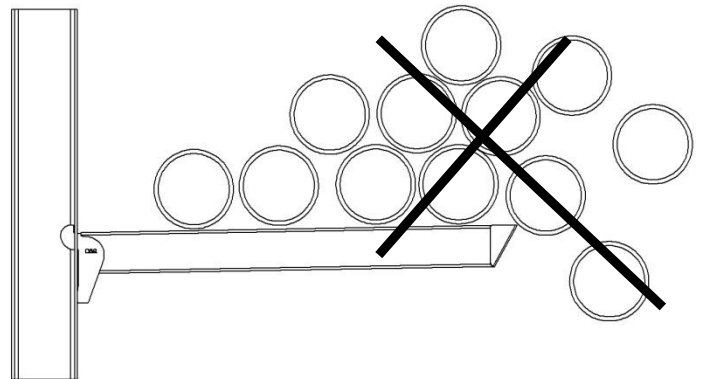
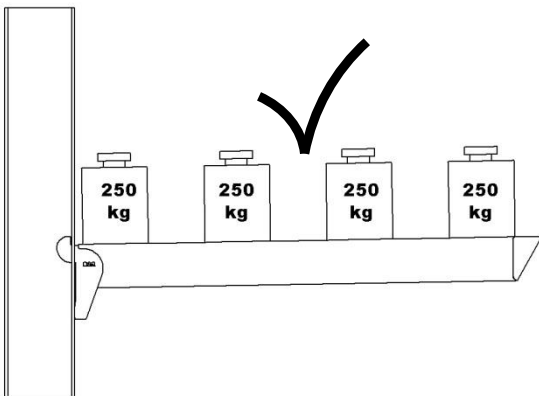
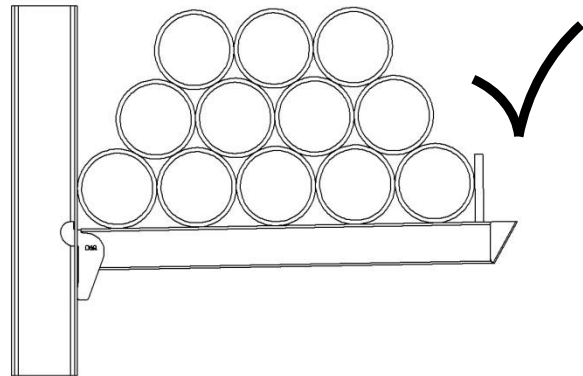
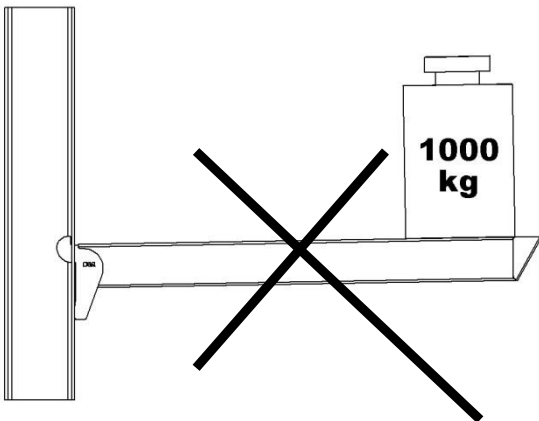
Belastingsbord  
Load capacity board  
Belastungsschild  
Plaque de charge

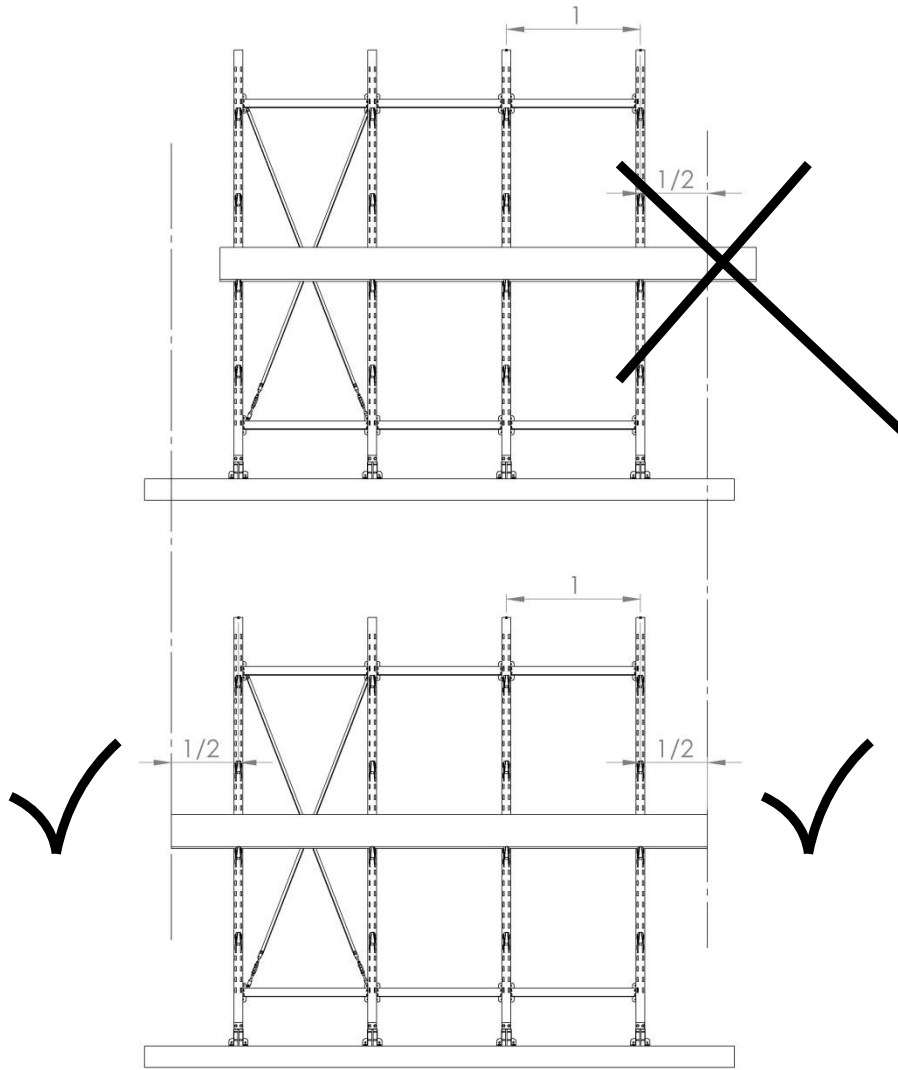


- Op staander monteren op ooghoogte
- Screw to pillar at eye height
- In Augenhöhe mit Ständer verschrauben
- Visser sur montant à hauteur des yeux

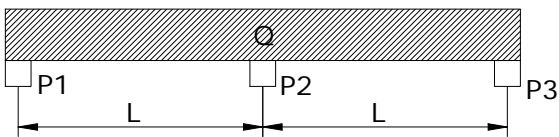
Opgave belastingcapaciteit  
Load capacity data  
Belastungsangabe  
Indication de capacité de charge

Goederen borgen  
Securing goods  
Ware sichern  
Sécuriser la marchandise

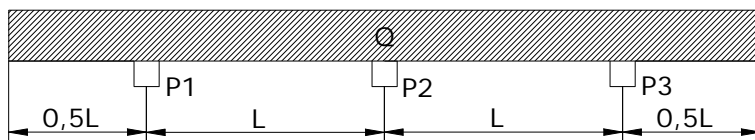




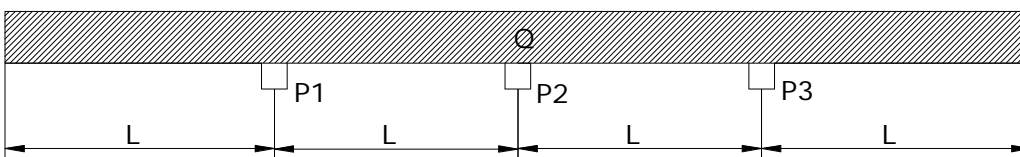
Q= Equal spread load  
 P= Load per arm  
 F= Total load



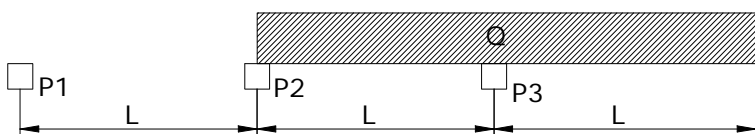
$$\begin{aligned} P1 &= 0,2 Q \\ P2 &= 0,6 Q \\ P3 &= 0,2 Q \end{aligned}$$



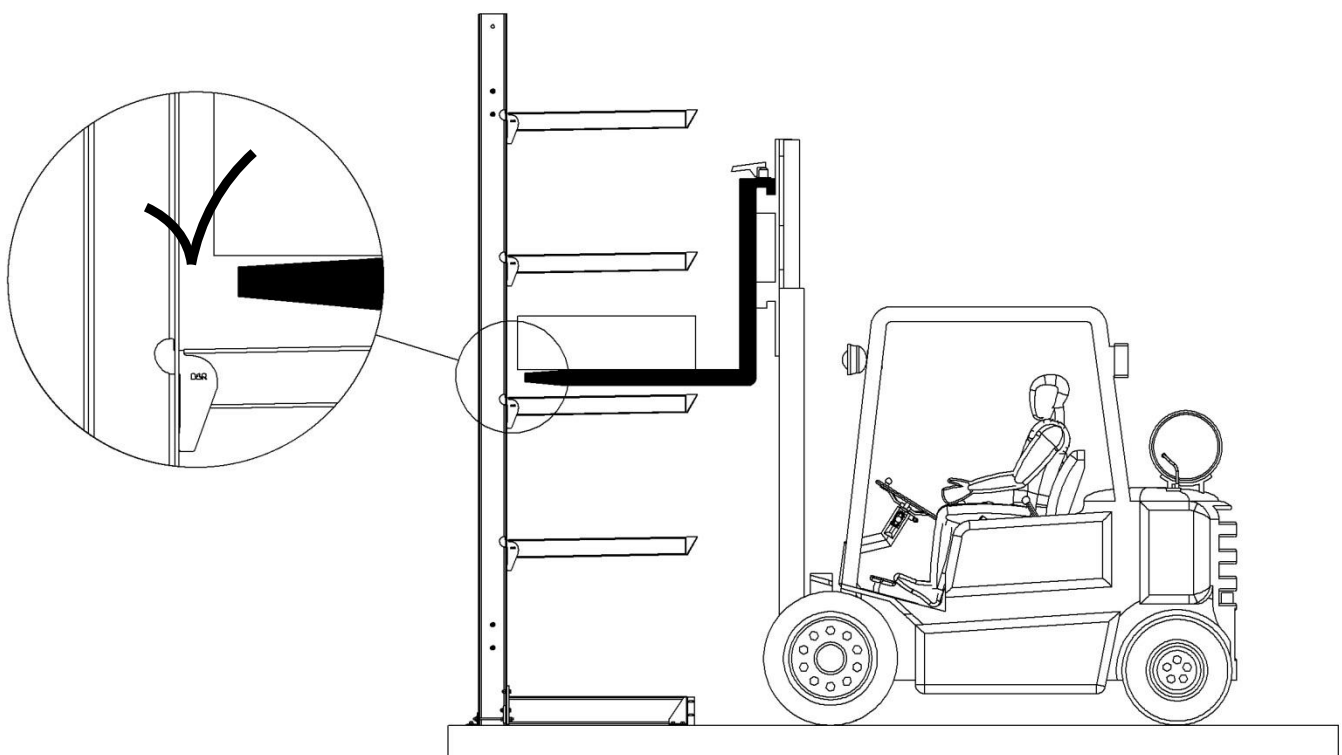
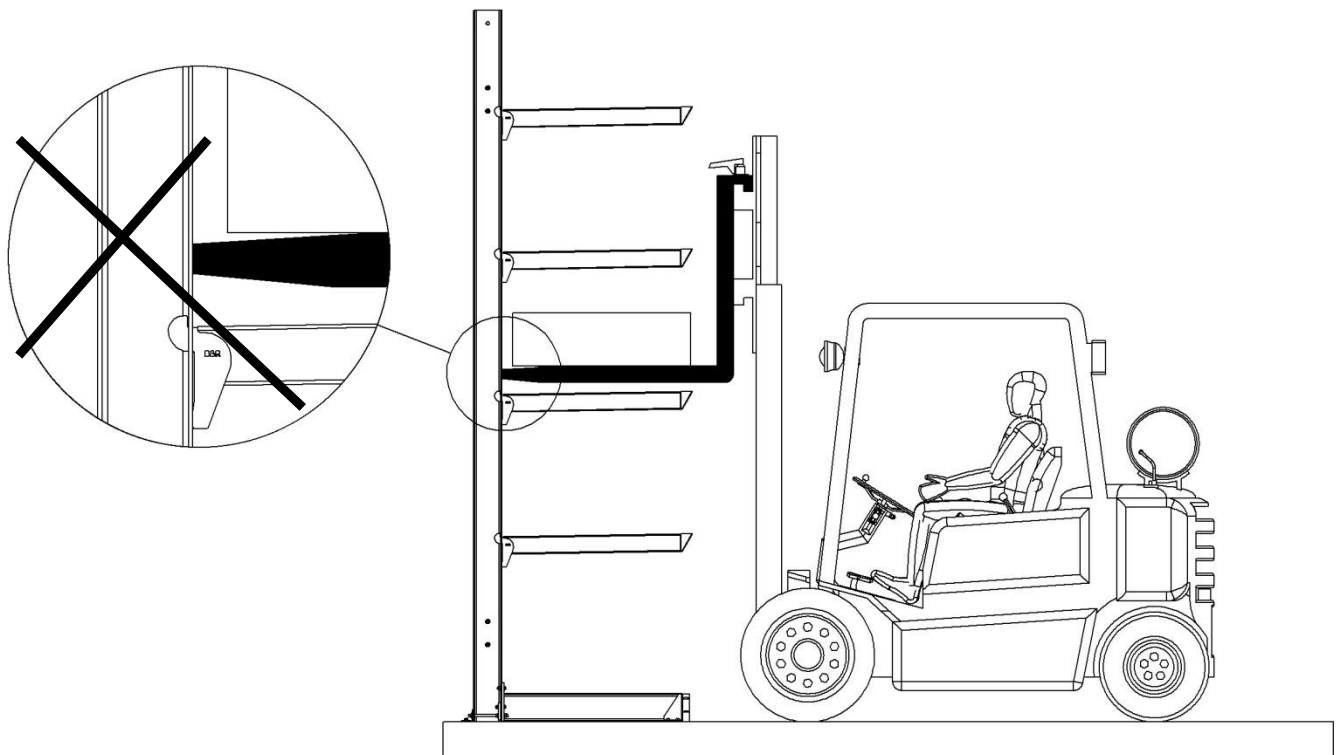
$$\begin{aligned} P1 &= 0,35 Q \\ P2 &= 0,30 Q \\ P3 &= 0,35 Q \end{aligned}$$

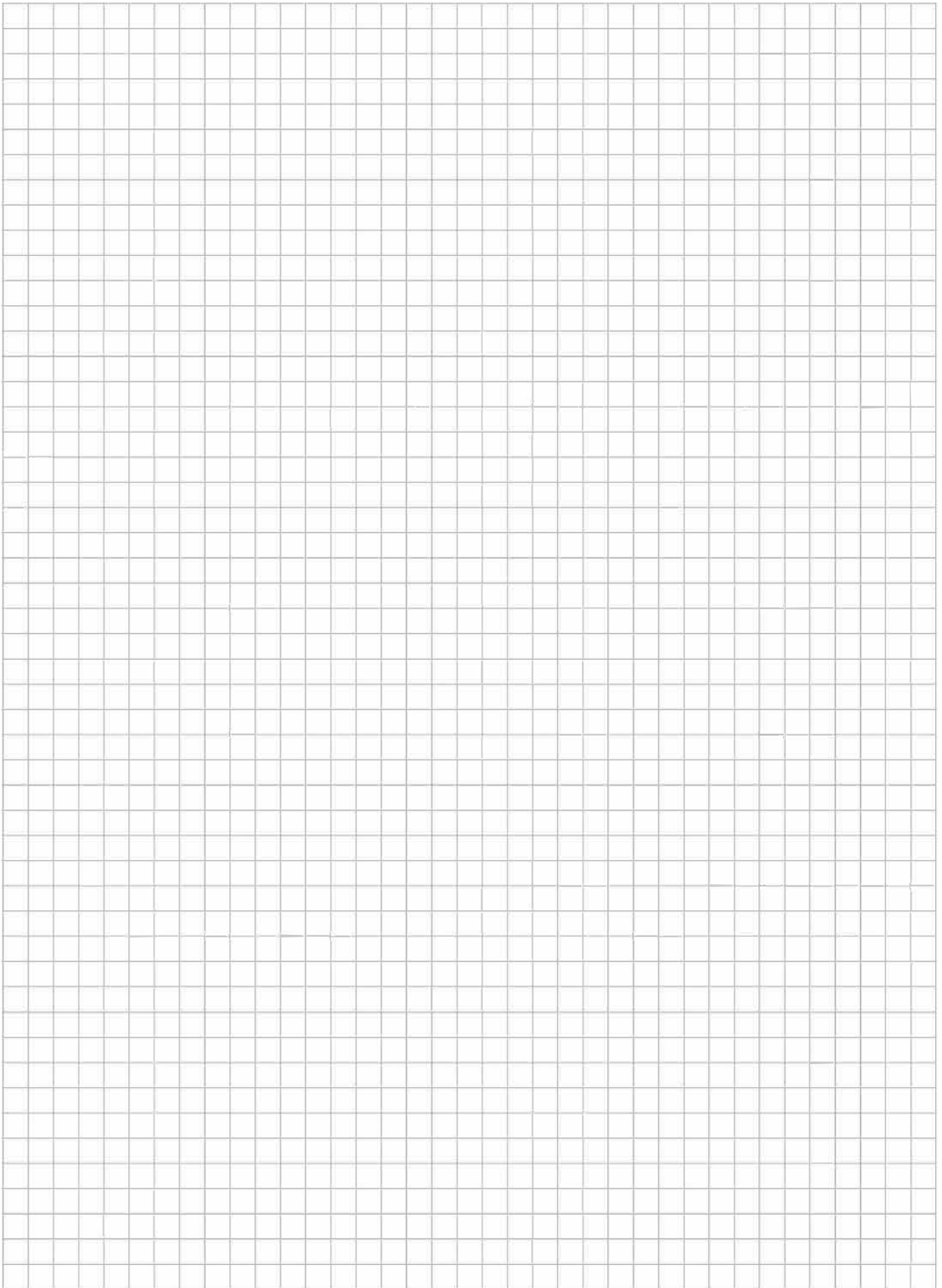


$$\begin{aligned} P1 &= 0,5 Q \\ P2 &= 0,0 Q \\ P3 &= 0,5 Q \end{aligned}$$



$$\begin{aligned} P1 &= 0,0 Q \\ P2 &= 0,0 Q \\ P3 &= 1,0 Q \end{aligned}$$









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