



niytec

ingeniously simple!

set up rules in their most  
straight-forward version

## 2. Set up rules in their most straight-forward version

### 2.1 Stages < 80 cm without bracing

### 2.2 Stages $\geq$ 80 – 140 cm with diagonal bracing for all leg variants

2.2.1 Sample stage 6 x 6 m

2.2.2 Expansion of the sample stage from 6 x 6 m to 12 x 12 m

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2.2.4 Modification of the depth of the stage

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2.2.6 Small stages

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### 2.4 Galleries tier height 20 cm, level depth 1 m

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2.4.5 Extension of the gallery in height

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### 2.5 Gallery tier height 40 cm, level depth 1 m

2.5.1 Sample gallery 6 x 3 m, gallery height 120 cm

2.5.2 Expansion of the gallery in width from 6 m to 12 m

2.5.3 Modification of the width of the gallery

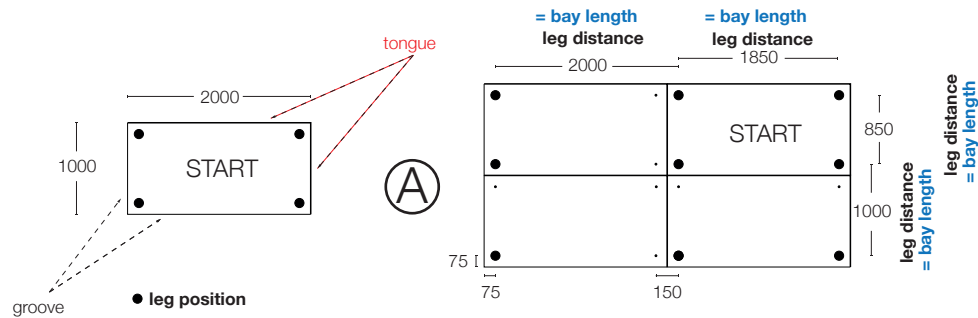
2.5.4 Modification of the gallery deviating from the standard dimension (2 m in width)

2.5.5 Extension of the gallery in height

2.5.6 Modification of the level depth from 1 m to 2 m

## 2. Set up rules in their most straight-forward version

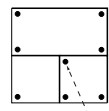
### 2.1 Stages < 80 cm without bracing (see detailed set-up diagrams in chapter 3.1)



#### General rules:

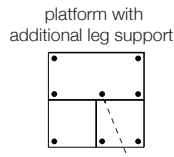
- set-up principle 4 -2-2-1: Position the starting platform (4 legs) at the back on the right side, then set up the edge platforms widthwise (2 legs at the left side) and depthwise (2 legs at the front) (L-shape). Finally, complete the remaining interior platforms (1 leg at the left front).
- leg distance for starting platform 200 x 100 cm: 185 cm (= rail 185 cm) and 85 cm (= rail 85 cm).
- leg distance for all following platforms 200 x 100 cm: 200 cm and 100 cm.
- distance between stage rails (see A): 150 mm (= rail link 150 mm).

(B)



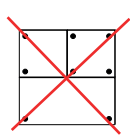
additional leg

(C)

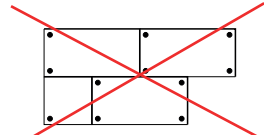


additional leg

(D)

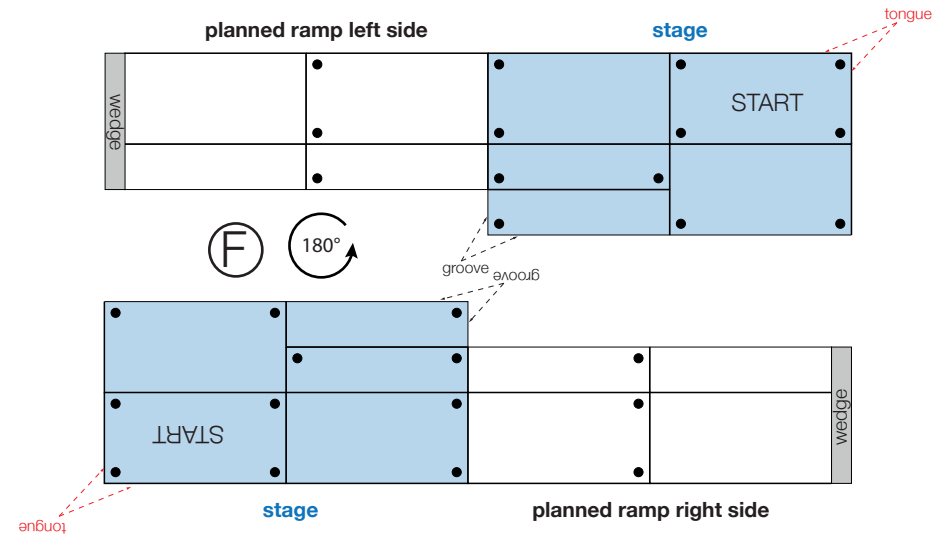


(E)



#### For tongue and groove system, please note:

- The tongue sides of the platforms are always located at the back and on the right side, the groove sides always at the front and on the left side (assemblers therefore always stand at the groove sides during assembly).
- After hooking the tongue into the groove, immediately actuate the locking mechanism.
- It is only possible to hook small platforms into large ones. In this case, an additional leg (see B) or a platform with an additional leg support and an additional leg (see C) is necessary for stability reasons.
- Large platforms cannot be hooked into small platforms (see D).
- An offset set-up is not possible.
- The legs in axes and rows must be placed in the specified way in order to be able to install the required bracing (see E).



A quick change of size (expansion or reduction) is only possible at the groove sides of the stage. Prior to the assembly, any constructions, ramps or stairways can be integrated into the planning in the desired grid in a way that assembly or dismantling can be carried out quick as lightning at the desired position without special parts. Therefore, the alignment of the stage and, as such, the position of the starting platform must be planned in advance accordingly (see F).

#### Important Notes:

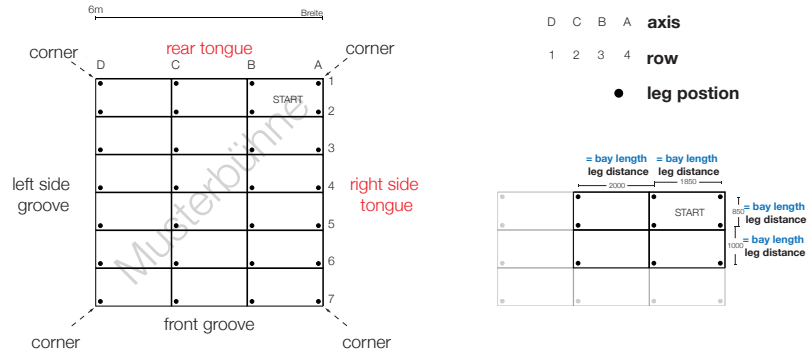
- Stages must only be set up on ground that is capable of bearing loads and must be adequately shimmed in case of more substantial unevenness of the ground.
- Prior to use all parts need to be checked to ensure their impeccable condition.
- The correct choice of legs must be made according the ground conditions.
- In case of slippery, smooth or sensitive floors, use floor protectors made of skid-resistant hard rubber.
- The stages and galleries must be well levelled horizontally.
- Never move structures that have already been built. The legs must always be at a 90° angle to the stage surface.
- When using Layher scaffolding spindles in combination with nivtec load distribution legs with removable leg corks, it is mandatory to comply with the prescribed max. spindle way (for LS 60 and LS 80 max. 20 cm).
- The nivtec platforms are suitable for indoor and short-term outdoor use. Attention: Wood is a natural product and must therefore be protected from intense sunlight and waterlogging and other extreme weather conditions such as strong temperature fluctuations.
- For reasons of safety and liability, only original nivtec parts are to be used for the set-up in accordance with nivtec specifications.

## 2. Set up rules in their most straight-forward version

### 2.2 Stages $\geq 80$ cm - 140 cm with diagonal bracing for all leg variants

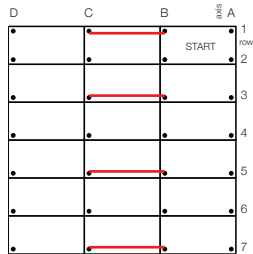
(see detailed set-up diagrams in chapter 3.2)

#### 2.2.1 Sample stage 6 x 6 m:



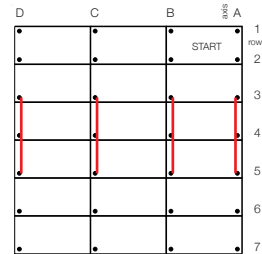
#### Diagonal bracing – material required:

- Aluminium tube 48.3 mm x 4.0 mm, material EN AW-6005 A T6
- Layher swivel coupler 48.3 mm (Attention: In case of extended telescopic legs, Altrad / Plettac reduction coupling 48.3 / 38 must be used at the bottom on the interior pipe).
- Stage height 80 – 100 cm: diagonal brace 2.250 mm, bay length 185 cm / 200 cm
- Stage height > 100 – 140 cm: diagonal brace 2.400 mm, bay length 185 cm / 200 cm



#### Diagonal braces in rows:

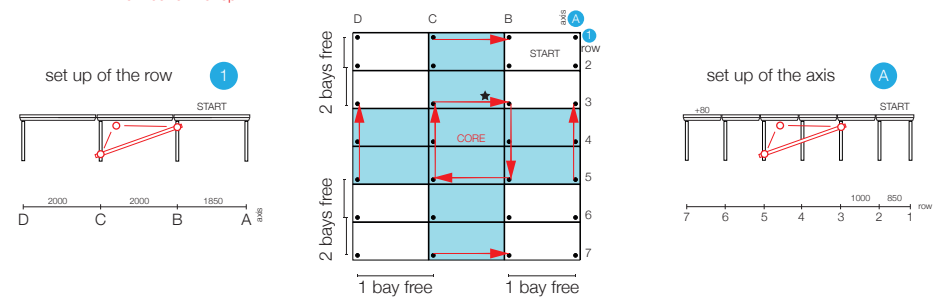
- Each stage is equipped with an outer diagonal brace on each side of the stage. It is placed in such a way that at the front and back, in the first and last row of legs, there remains only a maximum of one brace-free space to the corner of the stage.
- There may be no more than 2 brace-free fields between the outer and inner diagonal braces (= one brace-free leg row).



#### Diagonal braces in axis:

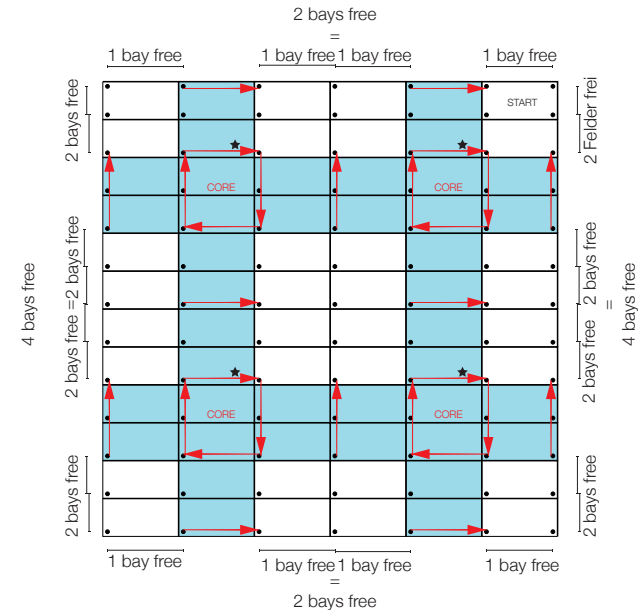
- On the right and left side of the stage, the outer diagonal braces must be placed in a way that no more than 2 bays remain brace-free to the corner, i.e., no more than 2 brace-free legs in the axis.
- No leg axis may remain unbraced between the outer and inner diagonal braces.

#### Direction of the diagonal braces:



- Install all outer diagonal braces (row and axis diagonal braces) in ascending order, i.e., from bottom to top, and always in the direction of the starting platform.
- Install all inner diagonal braces (axis diagonal braces and row diagonal braces) clockwise in their direction from bottom to top. Thus, they form a core and are, therefore, also referred to as core diagonal braces.
- Outer diagonal braces and core diagonal braces form a symmetrical pattern (the sample stage 6 x 6 m has 4 diagonal row braces and 4 diagonal axis braces).  
\*At height 80 cm the marked diagonal brace may be dispensed with.

#### 2.2.2 Expansion of the sample stage from 6 x 6 m to 12 x 12 m:

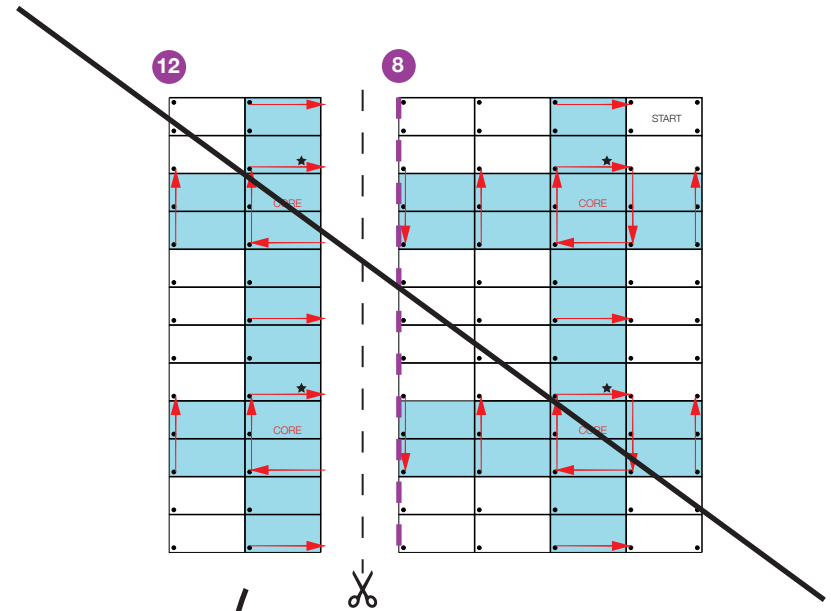
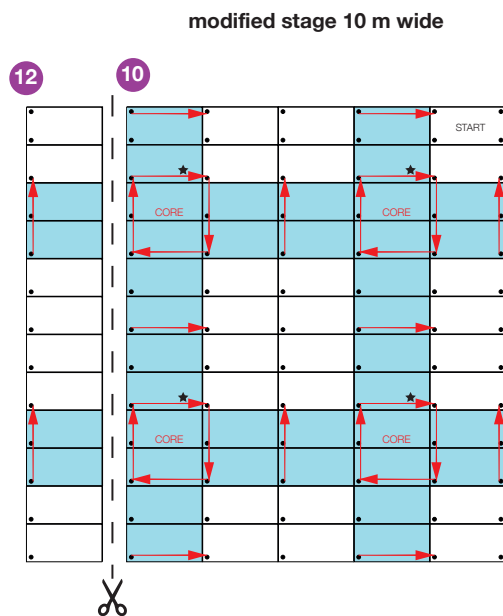
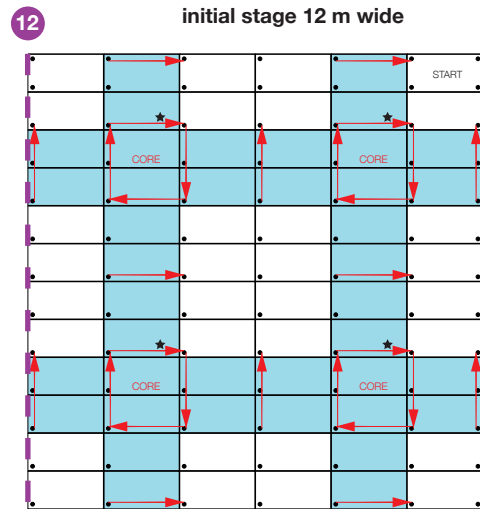


- The stage always shows the same pattern in width and depth of 6 m. The expansion to 12 x 12 m thus is a schematic expansion of the sample stage with edge platforms (2 legs) in width and depth as well as inner platforms (1 leg).
- Between the outer diagonal braces, max. 2 bays remain free in width and max. 4 bays in depth. Since the outer diagonal braces are positioned parallel to the cores, the same distances inevitably apply to the cores as well.

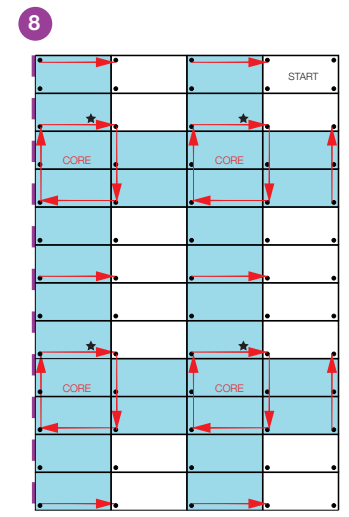
## 2. Set up rules in their most straight-forward version

### 2.2 Stages $\geq 80$ cm - 140 cm with diagonal bracing for all leg variants

#### 2.2.3 Modification of the width of the stage:



modified stage 8 m wide

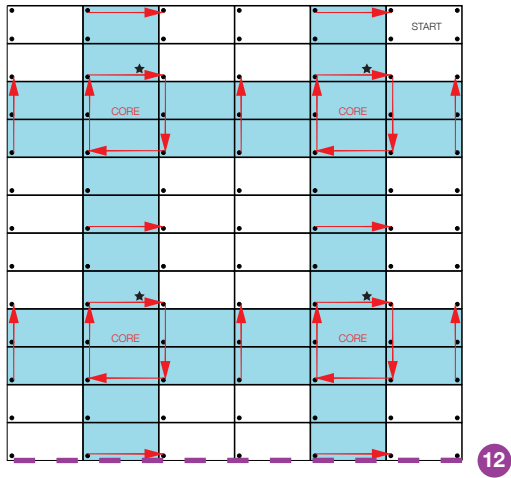


## 2. Set up rules in their most straight-forward version

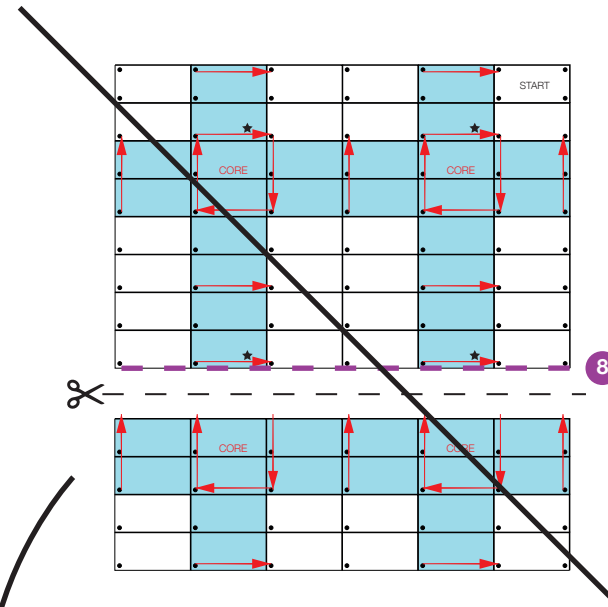
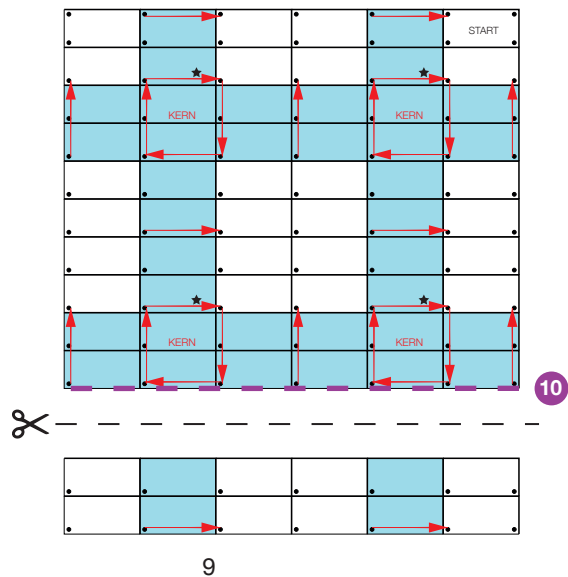
### 2.2 Stages $\geq 80$ cm - 140 cm with diagonal bracing for all leg variants

#### 2.2.4 Modification of the depth of the stage:

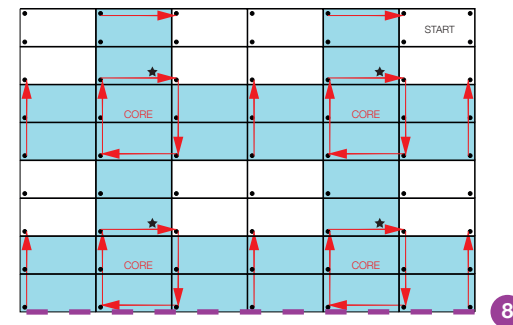
initial stage 12 m deep



modified stage 10 m deep



modified stage 8 m deep

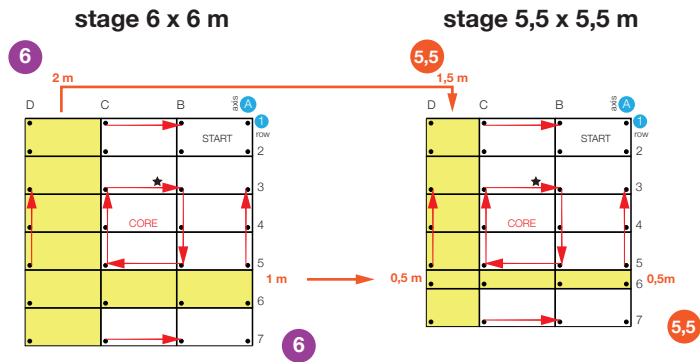


**Conclusion:** The following applies for even but also for odd stage dimensions: By using uniform cores (2 x 2 m) identical bracing material is used, sizes depending on the height. Only in the case of a catwalk with a depth 1 m the core necessarily has to be 2 x 1 m.

## 2. Set up rules in their most straight-forward version

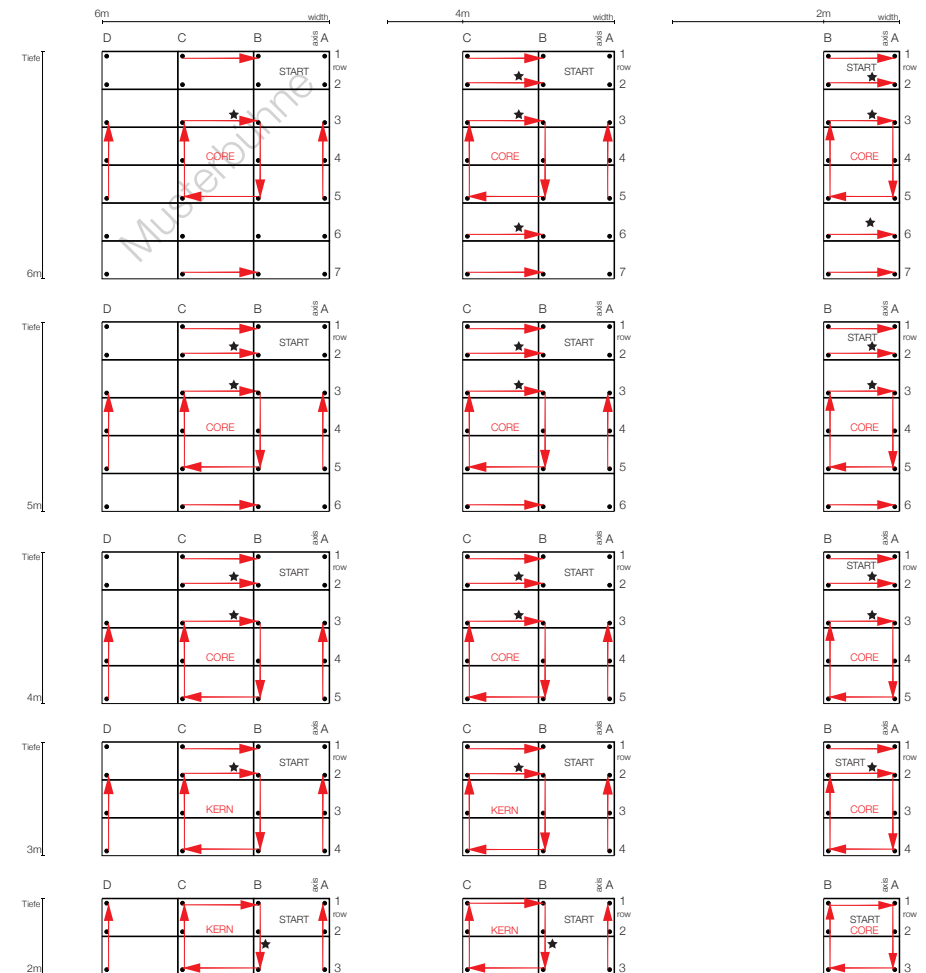
### 2.2 Stages $\geq 80$ cm - 140 cm with diagonal bracing for all leg variants

#### 2.2.5 Modification of the stage deviating from standard dimension (width 2 m, depth 1 m):



- Based on a stage of standard dimensions (e.g., 6 x 6 m), platforms of brace-free bays are replaced by platforms of other dimensions (1.5 m wide, 0.5 m deep) without any change in the set-up scheme.

#### 2.2.6 small stages:



- All stages with a width and/or depth of less than 6 m are considered small stages. For reasons of stability all rows between outer diagonal braces and core diagonal braces outside of the cores must be braced with inner diagonal braces in addition to the prescribed bracing at heights of  $> 80$  cm - 140 cm,
- In the case of extremely small set-ups (e.g., DJ podiums) it is recommended for stability reasons to switch to platforms with the smallest possible dimensions (e.g., 2 platforms 1 x 1 m instead of 1 platform 2 x 1 m). Alternatively, platforms can be built on top of each other using step bolts and step legs or corresponding LV legs with removable leg plugs.

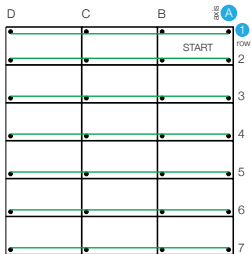
## 2. Set up rules in their most straight-forward version

### 2.3 Stages > 140 cm – 200 cm with horizontal bracing

(see detailed set-up schematics in chapter 3.3)

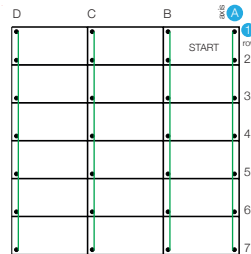
#### horizontal bracing – material required:

- Aluminium tube 48.3 x 4.00 mm, material EN AW-6005 A T6
- Layher standard coupler 48.3 mm
- Horizontal 2.100 mm, bay length 185 cm / 200 cm
- Horizontal 1.100 mm, bay length 85 cm / 100 cm



#### row horizontal braces:

must be installed in all rows without exception. No leg set in the depth may remain connection-free. 2 Layher standard couplers must be used per row horizontal 2.100 mm as well as 1.100 mm.

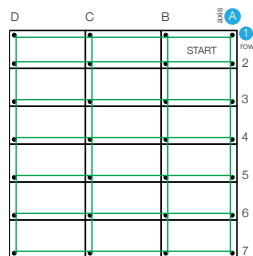


#### axis horizontal braces:

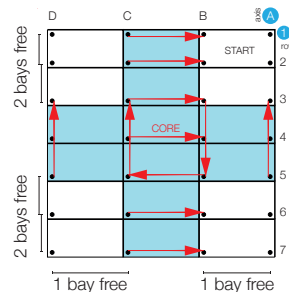
must be installed in all axes without exception. No leg set in the width may remain connection-free. 3 Layher standard couplers are to be used per horizontal 2.100 mm axis, but only 2 in case of a length of 1.100 mm.

#### sample stage 6 x 6 m

set up of horizontal bracing



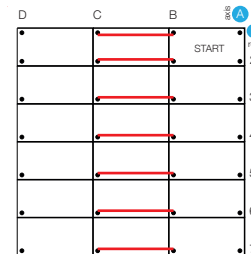
set up of diagonal bracing



### and diagonal bracing for all leg variants

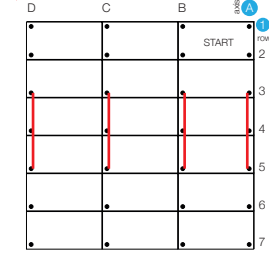
#### diagonal bracing – material required:

- The bracing material corresponds to that of the stages  $\geq 80$  cm – 140 cm: Aluminium tube and Layher swivel couplers. Only the lengths of the diagonal braces differ:
- Stage height > 140 cm – 180 cm: Diagonal brace 2.500 mm resp. 1.500 mm
- Stage height > 180 cm – 200 cm: Diagonal brace 2.750 mm resp. 1.750 mm



#### row diagonal braces

follow the familiar pattern. The only difference: They are used in every row, both outside and inside of cores. Only 1 bay may remain brace-free to the corners of the stage and a maximum of 2 bays may remain brace-free between the bracing axes if the stage is expanded.



#### axis diagonal braces

must be used on each axis.

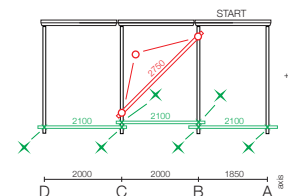
A maximum of 2 bays may remain brace-free to the corner of the stage and a maximum of 4 fields may remain brace-free between the bracing rows if the stage is expanded.

#### direction of diagonal braces

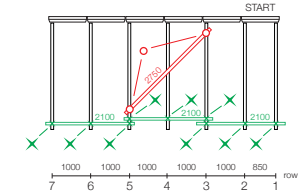
follows the familiar pattern of stages  $\geq 80$  cm – 140 cm. Additional diagonal braces outside as well as inside of cores always point in the direction of the starting platform.

#### sample stage 6 x 6 m

set up of a row



set up of a row



- × Layher standard coupler 48,3 mm
- Layher swivel coupler 48,3 mm

## 2. Set up rules in their most straight-forward version

### 2.4 Galleries tier height 20 cm, level depth 1 m

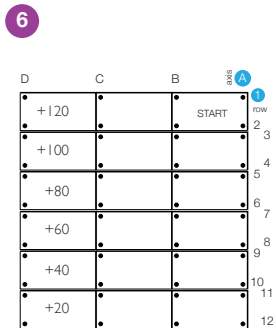
(see detailed set-up schematics in chapter 3.4)

#### General rules:

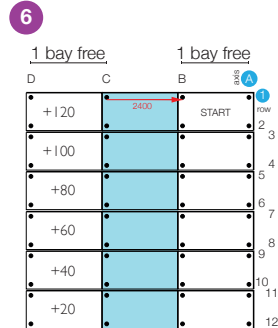
- Galleries are connected stages with a depth of 1 m each.
- Set-up principle 4 -2-2: Position the highest starting platform (4 legs) at the back at the right side, then set up the highest row with the other platforms (2 legs on the left side). Now add the next lower starting platforms (4 legs) towards the front (L-shape). Finally add the remaining inner platforms (2 legs on the left side) at the respective heights.
- Using leg links 110 mm (150 mm if Layher spindles are used), connect all platforms directly above the ground.
- The leg distance selected must be maintained throughout the entire gallery structure.

#### 2.4.1 Sample gallery 6 x 6 m, gallery height 120 cm:

Depiction of horizontal bracing

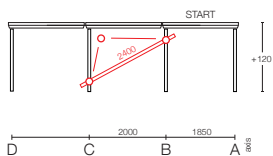


Depiction of diagonal bracing



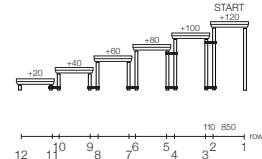
set up of a row

1



set up of an axis

A



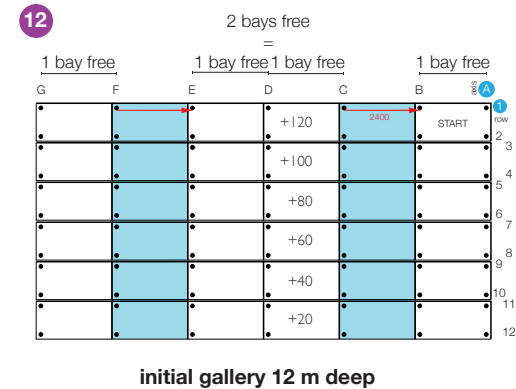
#### Gallery height > 80 cm:

- Use two leg connectors to connect to all subsequent gallery levels.

#### Gallery height ≥ 120 cm:

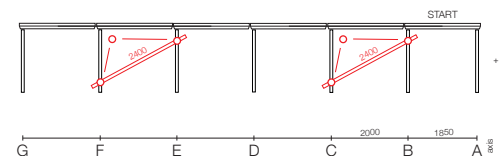
- Install diagonal bracing (material and lengths of the diagonal braces are identical to those of the stages).
- Place row diagonal braces in the first row of legs at the rear in the direction of the starting platform and fasten them with Layher rotating couplers in such a way that a maximum of one brace-free bay remains to each corner of the gallery. This will create the same bracing pattern as for stages.

#### 2.4.2 Expansion of the gallery in width by 6 m to 12 m:



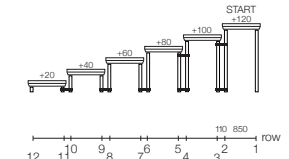
set up of a row

1



set up of an axis

A



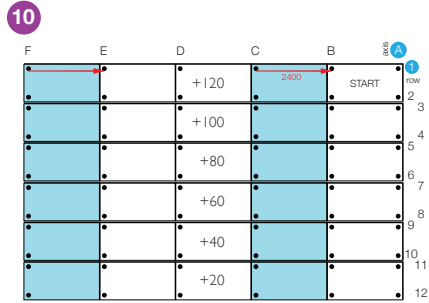
- The pattern of the 6 x 6 m gallery is repeated. The left side of each gallery always looks the same, just like the left side of a stage. It ends with a brace-free bay to the corner of the gallery.



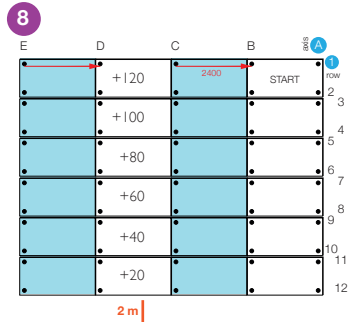
## 2. Set up rules in their most straight-forward version

### 2.4 Galleries tier height 20 cm, level depth 1 m

#### 2.4.3 Modification of the width of the gallery:

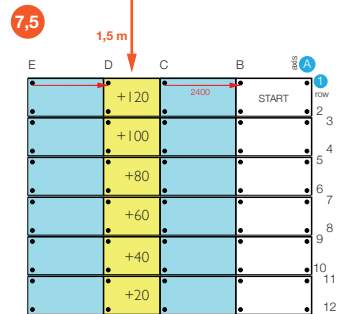


modified gallery 10 m wide



modified gallery 8 m wide

#### 2.4.4 Modification of the gallery deviating from standard dimension (2 m width)

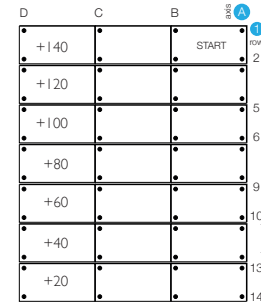


- Based on a gallery size 8 x 6 m, platforms of brace-free bays are replaced by platforms of a different width (1.5 m, 1 m, 0.75 m, 0.5 m) without any change to the set-up scheme.

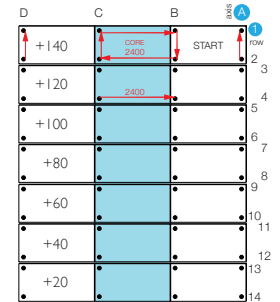
#### 2.4.5 Extension of the gallery in height:

##### Gallery height 140 cm

Depiction of horizontal bracing

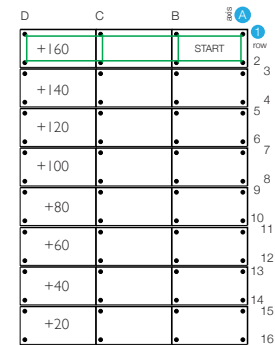


Depiction of diagonal bracing

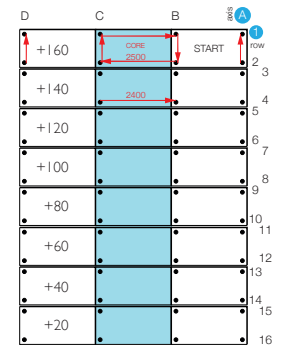


##### Gallery height 160 cm

Depiction of horizontal bracing



Depiction of diagonal bracing

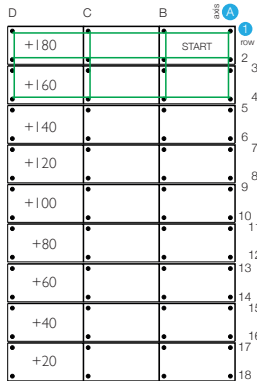


## 2. Set up rules in their most straight-forward version

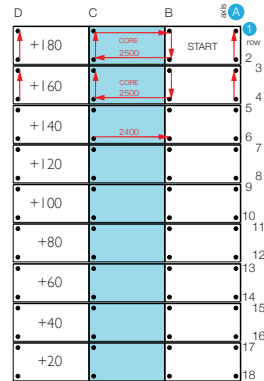
### 2.4 Galleries tier height 20 cm, level depth 1 m

Gallery height 180 cm

set up of horizontal bracing

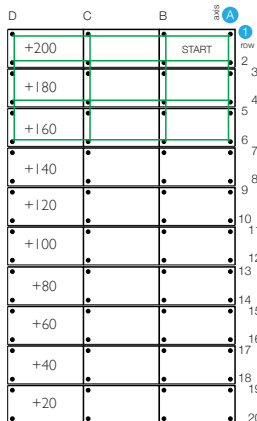


set up of diagonal bracing

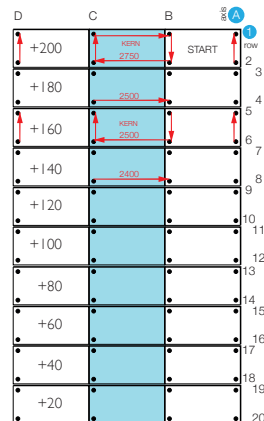


Gallery height 200 cm

set up of horizontal bracing

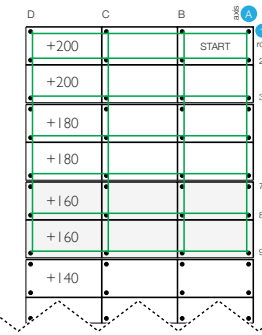


set up of diagonal bracing

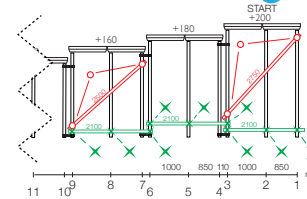


### 2.4.6 Modification of the level depth from 1 m to 2 m:

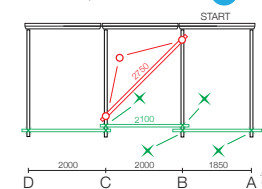
set up of horizontal bracing



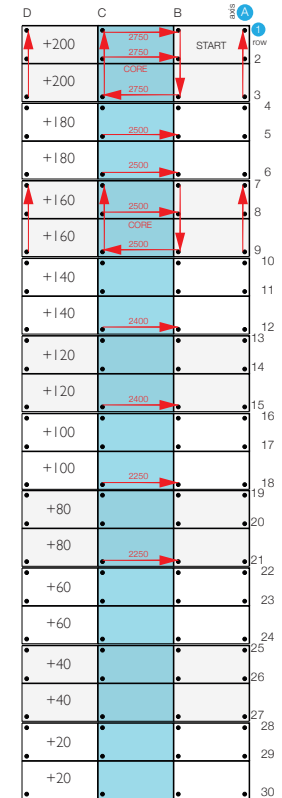
Depiction of axis A



Depiction of row 1



set up of diagonal bracing



- An increase in level depth presents a combination of the set-up of stages and galleries (adjoining, connected stages of the same height in 2 m width catwalks).
- **For height 80 cm:** brace rearmost gallery level with outer diagonal braces and cores (2 x 2 m) analogous to stages.
- **For heights 100 cm to 140 cm:** Move complete bracing to the highest gallery level. For heights 80, 100 and 120 cm, install diagonal braces at the front row of legs of each level.
- **For height 160 cm:** Additional to the diagonal braces in the highest level 160 cm diagonal braces inside the cores and additional horizontal braces are installed, analogous to the stage set-ups. The diagonal bracing of heights 80 cm to 140 cm remains unchanged.
- **For height 180 cm:** The last two gallery levels, both 160 cm as well as 180 cm, must be braced both horizontally and diagonally. The diagonal braces of heights 80 cm to 140 cm remain unchanged.
- **For height 200 cm:** The last three levels must be braced both horizontally and diagonally (see above). The diagonal bracing of heights 80 cm to 140 cm remains unchanged.

## 2. Set up rules in their most straight-forward version

### 2.5 Gallery tier height 40 cm, level depth 1 m

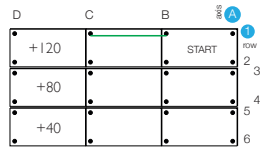
(see detailed set-up schematics in chapter 3.6)

#### General rules:

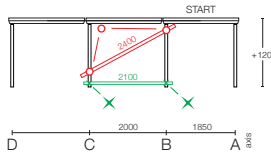
- The set-up corresponds to the set-up of a gallery with a tier height of 20 cm, but with the following additions.

#### 2.5.1 Sample gallery 6 x 3 m, gallery height 120 cm:

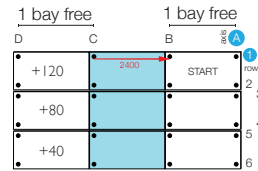
Depiction of horizontal bracing



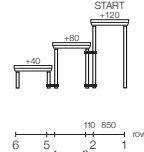
Depiction of row 1



Depiction of diagonal bracing



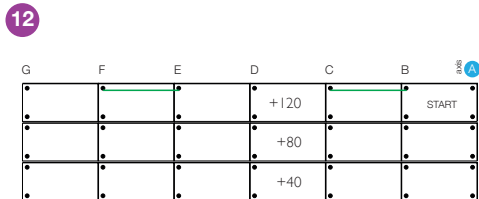
Depiction of axis A



- In addition to the row diagonal brace which is sufficient for tier height 20 cm, a row horizontal brace is mounted at the rear for tier height 40 cm and fastened with Layher standard couplers, so that a maximum of one brace-free bay remains to each corner of the gallery. This creates the same bracing pattern as for stages as well as for galleries with tier height 20 cm.

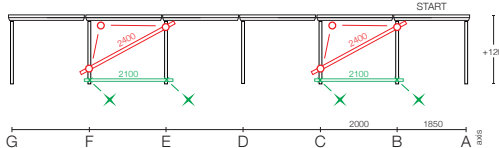
#### 2.5.2 Expansion of the gallery in width by 6 m to 12 m:

set up of horizontal bracing

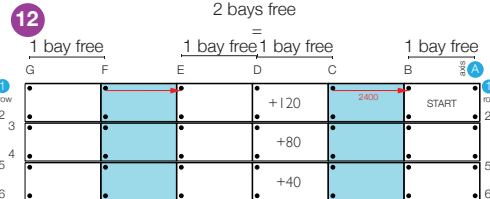


initial gallery 12 m wide

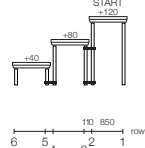
Depiction of row 1



set up of diagonal bracing

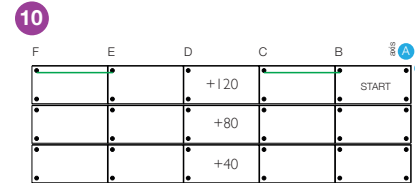


Depiction of axis A



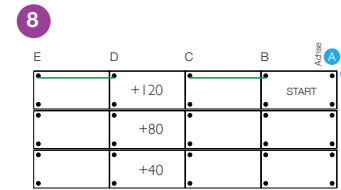
#### 2.5.3 Modification of the width of the gallery:

set up of horizontal bracing



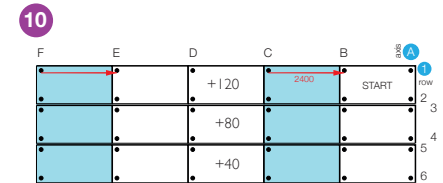
modified gallery 10 m wide

set up of horizontal bracing

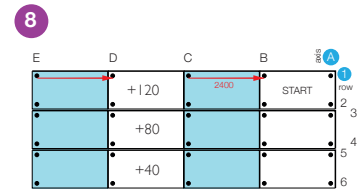


modified gallery 8 m wide

set up of diagonal bracing

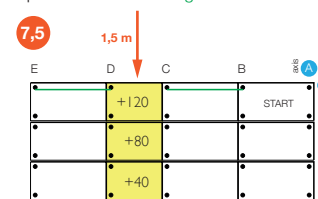


set up of diagonal bracing

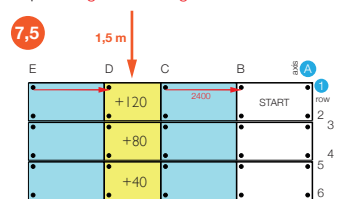


#### 2.5.4 Modification of the gallery deviating from the standard dimension (2 m in width)

set up of horizontal bracing



set up of diagonal bracing



## 2. Set up rules in their most straight-forward version

### 2.5 Gallery tier height 40 cm, level depth 1 m

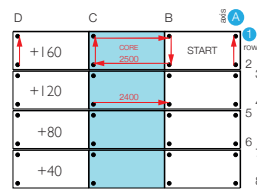
#### 2.5.5 Extension of the gallery in height:

##### gallery height 160 cm

set up of horizontal bracing

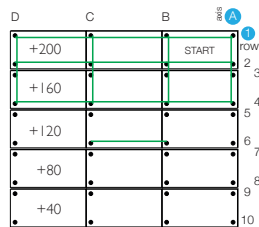


set up of diagonal bracing

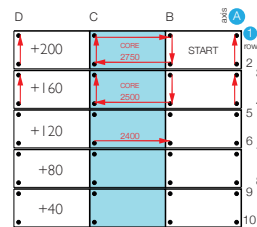


##### gallery height 200 cm

set up of horizontal bracing

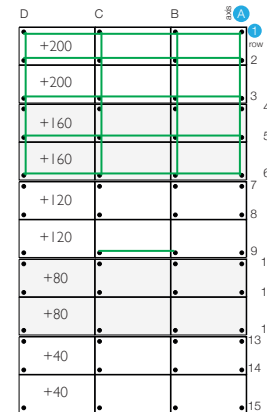


set up of diagonal bracing

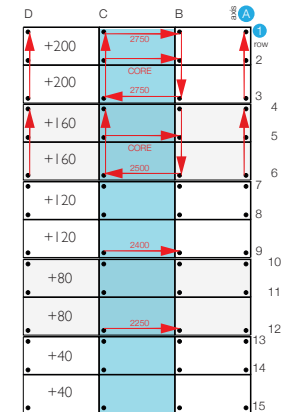


#### 2.5.6 Modification of the level depth from 1 m to 2 m:

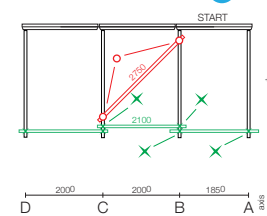
set up of horizontal bracing



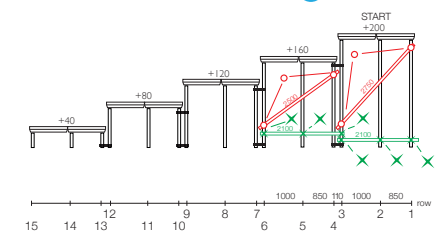
set up of diagonal bracing



set up of row



set up of axis



- Here, in essence, the same approach is repeated as for the gallery with tier height 20 cm. At level height of 120 cm a row horizontal brace is always installed in addition to the diagonal row brace.

- Here, in essence, the same approach is repeated as for the gallery with tier height 20 cm.
- **For gallery height 160 cm**, a horizontal bracing is installed at the rearmost gallery level in addition to the diagonal bracing, analogous to tier height 20 cm. At gallery level 120 cm, a horizontal brace must also be installed in addition to the diagonal bracing in the front row.
- **For gallery height 200 cm** the 160 cm and 200 cm levels are braced horizontally and diagonally. At gallery level 120 cm horizontal bracing must also be installed in the front row in addition to the diagonal bracing.