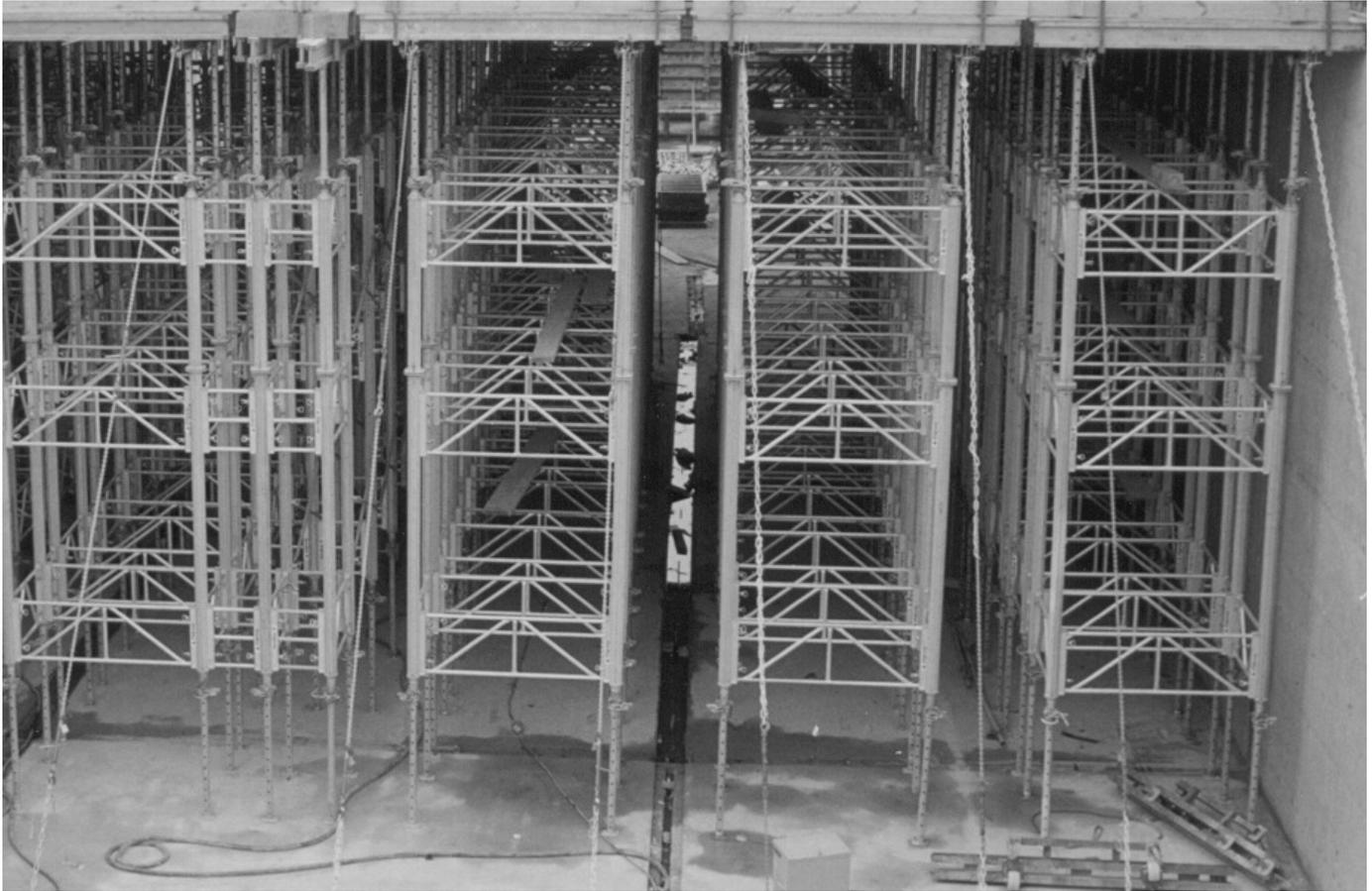


## **MEP Shoring System**

Technical Instruction Manual



The MEP Shoring System is a versatile yet simple system capable of handling virtually any project with only **two basic components: The post shore and the connecting frame.** With a variety of frame sizes, the MEP Shoring System can produce shoring towers ranging from 1'-9 1/2" to 10'-10" (55 cm - 330 cm) in either direction. This range allows for an efficient and productive layout no matter what the slab thickness is. MEP post shores and extensions can be stacked to provide shore heights from 4' to over 100' without effecting the shores' safe working load when connected with frames in each axis. MEP post shores feature the patented SAS quick-lowering system. The SAS allows the stress in the shore to be released with one strike of a hammer, then after stripping the post automatically resets and locks in the original position.

June 2010

## Please note:

This Technical Manual contains information, instructions and hints how to use the MEP shoring system on the construction site in a proper, quick and economic way.

Most examples shown are standard applications, that will occur in practice most often. For more complicated or special applications not covered in this manual, please contact the MEVA experts for advice.

When using our products the federal, state and local codes and regulations must be observed in their entirety.

Many of the details shown do not illustrate the MEP shoring system in the "ready to pour" condition as to the fore mentioned safety regulations.

Please adhere to these technical instructions when applying the MEP shoring system. Deviations require engineering calculation and analysis to guarantee safety.

Generally, only well maintained material may be used. Damaged parts must be replaced. Apply only original MEVA spare parts for replacement.

## Contents

---

|  |       |
|--|-------|
| MEP Post Shores .....                                      | 4     |
| MEP Extensions.....  | 5     |
| MEP Frames .....   | 6     |
| MEP Spindle.....   | 7     |
| Height Combinations.....                                   | 8-11  |
| Load Chart.....  | 12    |
| MEP Forked Prop Head .....                                 | 13    |
| MEP Diagonal Cross Brace .....                             | 14    |
| MEP Calotte Support.....                                   | 15    |
| MEP Folding Part .....                                     | 16    |
| MEP Tube Coupler DK 48 .....                               | 17    |
| MEP Connector for Push-Pull Props .....                    | 18    |
| MEP Scaffold Platforms.....                                | 19    |
| Applications for MEP Shoring System.....                   | 20-21 |
| Tower Assembly.....  | 22-25 |
| Stripping .....  | 26-28 |
| Crane Handling .....                                       | 29-31 |
| Transport of large MEP units with the transport waler..... | 32-33 |
| Material List.....   | 34    |
| Transport of Frames .....                                  | 35    |
| Transport of Post Shores .....                             | 36    |
| Service.....   | 37    |
| Product List.....  | 39-50 |

## MEP Post Shores

The MEP post shores consist of four primary components:

The aluminum **outer tube** which facilitates the attachment of the MEP frames (Fig. 4.1 and 4.2).

The steel **inner tube** which has holes punched for the coarse adjustment of the shore (Fig. 4.1 and 4.2).

The **adjusting nut** which provides fine adjustment.

The quick-lowering system **SAS** (Fig. 4.3) which lowers the shore 1/2" when struck with a hammer after concrete loading.

After stripping, the **SAS** automatically resets itself to the original locked position.

MEP 450

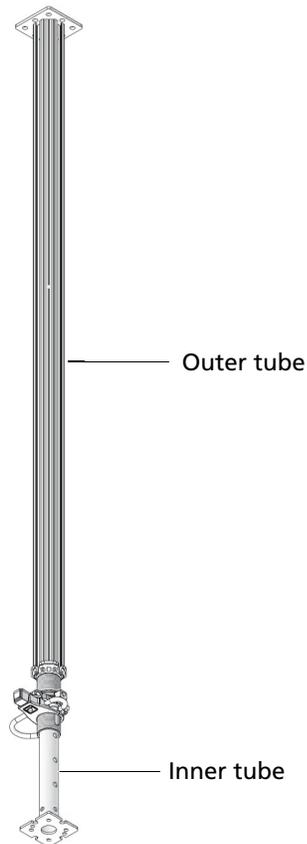


Fig. 4.1

MEP 300

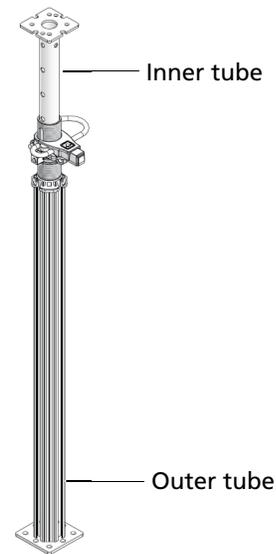


Fig. 4.2

### Quick-lowering system SAS

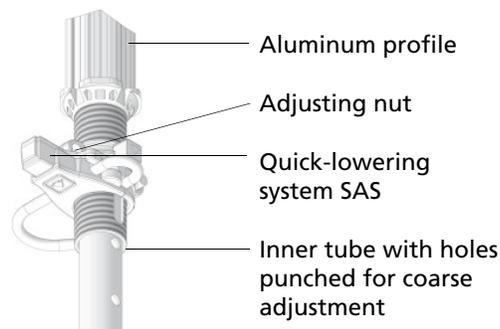


Fig. 4.3

| Description    | Ref.-No.  |
|----------------|-----------|
| MEP 450 w/ SAS | 29-907-70 |
| MEP 300 w/ SAS | 29-907-65 |

## MEP Extensions

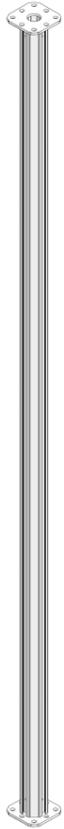


Fig. 5.1  
MEP extension 360



Fig. 5.2  
MEP extension 120



Fig. 5.3  
MEP extension 80

MEP extensions have the same profile as the outer tube on the MEP post shores for allowing the attachment of frames at any location on the extension (Fig. 5.1 - 5.3). Extensions are connected to MEP post shores or other extensions using plug-connectors with pins 14/135 (Fig. 5.4). Plug connectors give a rigid connection suitable for crane ganging the system.



Fig. 5.4



Plug connector



Pin

| Description           | Ref.-No.  |
|-----------------------|-----------|
| <b>MEP extensions</b> |           |
| 360 .....             | 29-907-95 |
| 120 .....             | 29-907-90 |
| 80 .....              | 29-907-85 |
| Plug connector.....   | 29-909-85 |
| Pin 14/135 .....      | 29-909-90 |
| Pin 14/ 90 .....      | 29-909-94 |

## MEP Frames

Towers and table forms are constructed using MEP frames.

The frames are attached to the post shore at the T-groove of the aluminum profile (outer tube). After mounting the frames to the outer tubes the hammerhead screw must be in horizontal position (Fig. 6.7). MEVA recommends a walk through to check that all hammerhead screws are in horizontal position before concreting begins.

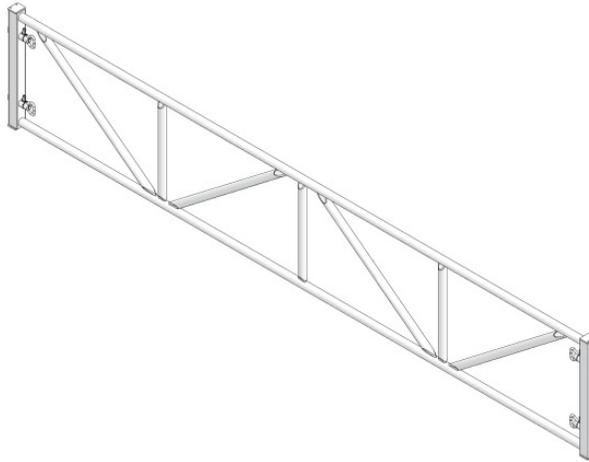


Fig. 6.1: MEP frame 330

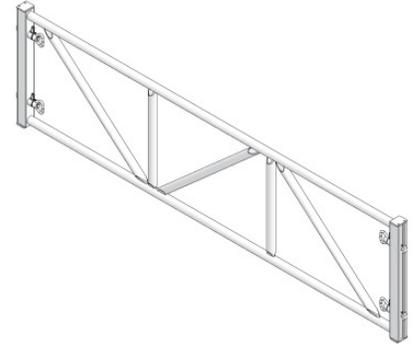


Fig. 6.2: MEP frame 220



Fig. 6.3: MEP frame 170



Fig. 6.4: MEP frame 110



Fig. 6.5: MEP frame 55

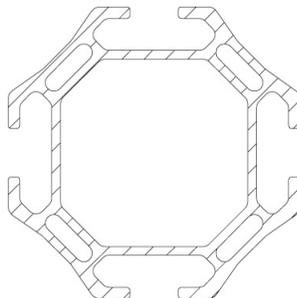
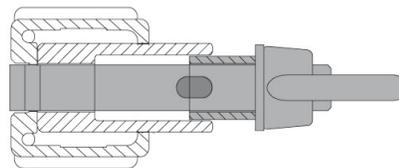
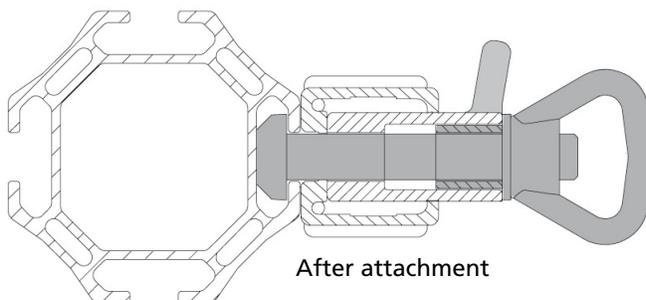


Fig. 6.6



Hammerhead screw in vertical position before attachment

Before attachment



Hammerhead screw in horizontal position after attachment

After attachment

Fig. 6.7

| Description       | Ref.-No.  |
|-------------------|-----------|
| <b>MEP frames</b> |           |
| 55 .....          | 29-909-10 |
| 110 .....         | 29-909-15 |
| 170 .....         | 29-909-20 |
| 220 .....         | 29-909-25 |
| 330 .....         | 29-909-30 |

## MEP Spindle

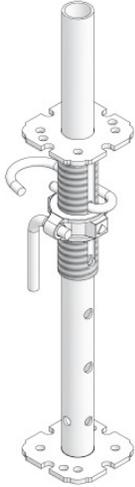


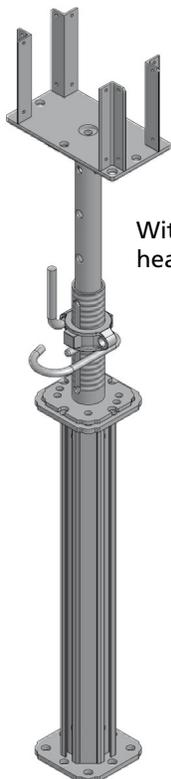
Fig. 7.1: MEP spindle



With MevaDec drop head (bolted)

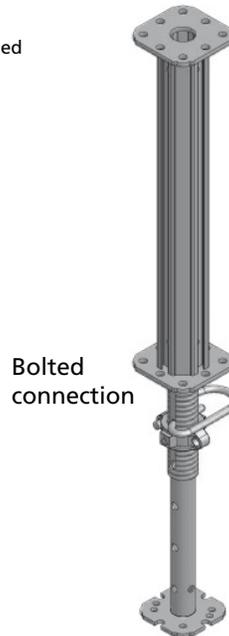
**Note:**  
If MEP towers are used in combination with MevaDec we recommend the use of the pluggable drop-head.

Fig. 7.2: Spindle attached at the top



With forked prop head (pin connection)

Fig. 7.3: Spindle attached at the top



Bolted connection

Fig. 7.4: Spindle attached at the bottom

MEP spindles can be bolted (with four M16 x 40 bolts and nuts) to the foot plates of all MEP post shores and extensions to provide 11" - 31.5" (28-80 cm) of additional adjustment.

**Outer tube** is made out of steel. The thread is from the ME 250/30 post shore (d = 2.36" (60 mm)).

**Inner tube** is made out of steel. The tube and foot plate is from the ME 250/30 post shore (d = 1.89" (48 mm)).

**Principle of adjustment**  
Rough adjustment by using the G-hook, fine adjustment by using the adjusting nut.

### Adjustment range

- 11" - 31.5" (28 - 80 cm)
- 26.8" - 47.2" (68 - 120 cm) when using a drop-head (Fig. 7.2)
- 14.2" - 31.9" (36 - 81 cm) when using a forked head (Fig. 7.3)
- 14.8" - 32.5" (37.5 - 82.5 cm) when using calotte plates.

| Description      | Ref.-No.  |
|------------------|-----------|
| MEP spindle..... | 29-909-70 |
| Bolt M16x40..... | 63-120-49 |
| Locking nut M16  | 63-130-00 |
| Washer M16.....  | 62-030-42 |

## Height Combinations

The following are examples for various height combinations using the MEP shoring system.

**Attention:**

For load capacity see page 12.

**Fig. 8.1**

Four (4) MEP 300, joined with four (4) MEP frames.

Possible heights:  
6'-1" to 9'-10"  
(185 - 300 cm)

**Note:**

The frames are placed at the lowest possible position on the MEP 300 (outer tube).

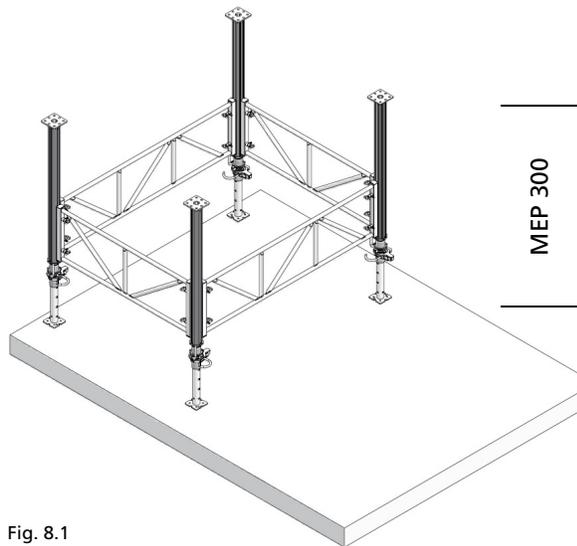


Fig. 8.1

**Fig. 8.2**

Four (4) MEP 300, four (4) MEP extensions 120 and four (4) MEP spindles, joined with eight (8) MEP frames.

Possible heights:  
10'-11" to 16'-4"  
(333 - 500 cm)

**Note:**

The frames are placed at the lowest possible position on the MEP 300 and in the middle of the MEP extension 120.

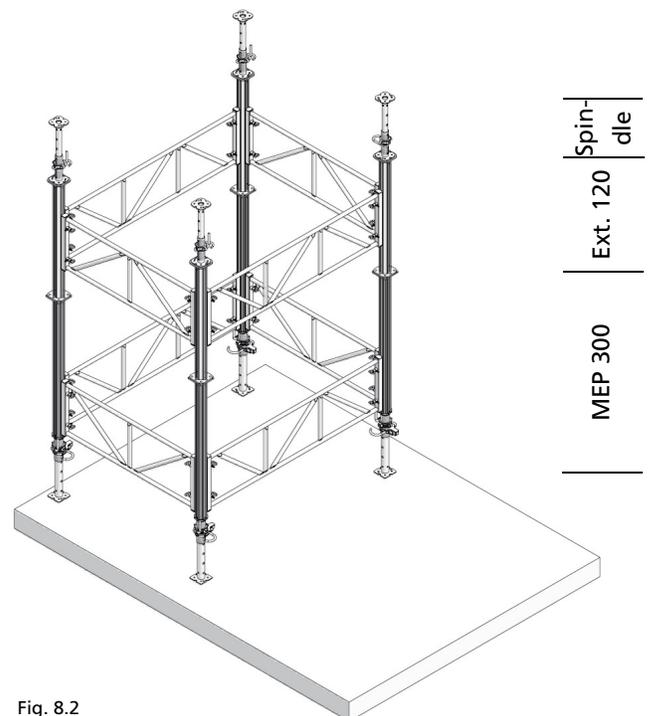


Fig. 8.2

## Height Combinations

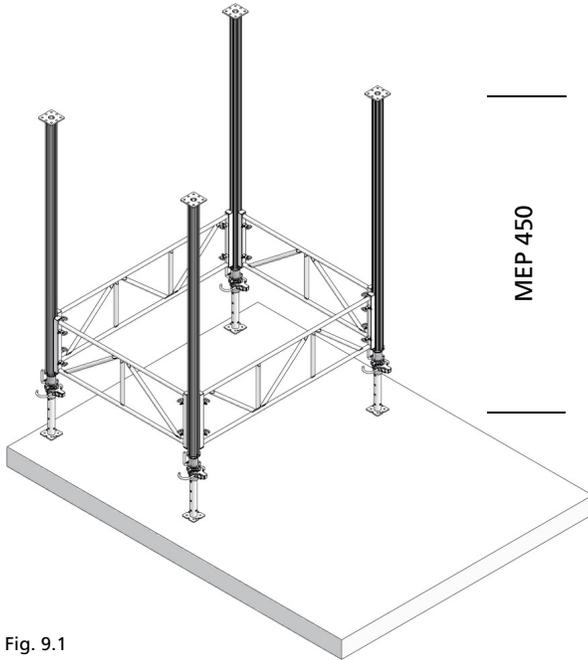


Fig. 9.1

**Fig. 9.1**

Four (4) MEP 450, joined with four (4) MEP frames.

Possible heights:  
9'-10" to 14'-9"  
(300 - 450 cm)

**Note:**

The frames are placed at the lowest possible position on the MEP 450 (outer tube).

**Fig. 9.2**

Eight (8) MEP 300, joined with eight (8) MEP frames.

Possible heights:  
12'-1 3/4" to 19'-8"  
(370 - 600 cm)

**Note:**

MEP 300 at bottom and top with steel tubes at the very bottom and top respectively. The first level of frames is placed at the lowest possible position on the bottom MEP 300. The second level of frames is placed at the highest possible position on the top MEP 300. The frames are attached to the post shores at the T-groove of the aluminum profile (outer tube). Always make sure that the hammerhead screws are in horizontal (=locked) position.

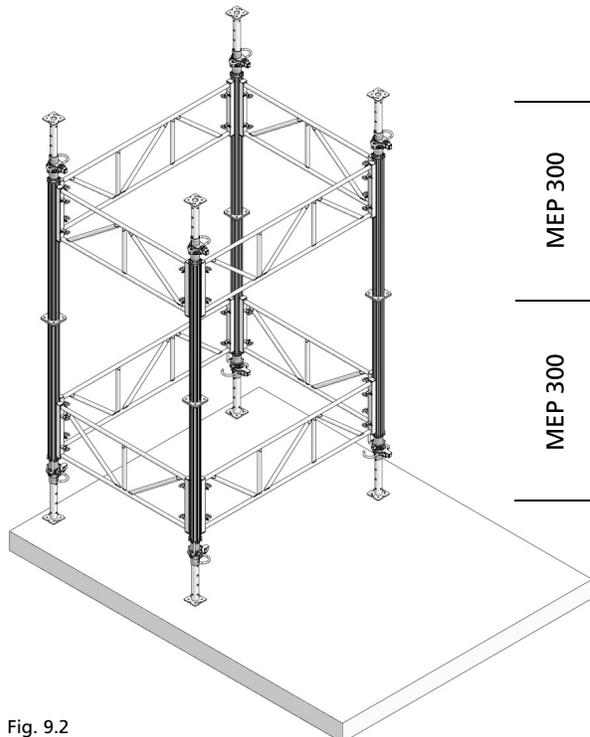


Fig. 9.2

## Height Combinations

**Fig. 10.1**

Four (4) MEP 450 ,  
four (4) MEP extensions  
120 and four (4)  
MEP spindles joined  
with eight (8) MEP  
frames.

Possible heights:  
14'-8" to 21'-4"  
(448 - 650 cm).

**Note:**

The frames are placed  
at the lowest possible  
position on the MEP  
450 and in the middle  
of the MEP extension  
120. The frames are  
attached to the post  
shores and the exten-  
sions at the T-groove  
of the aluminum  
profile (outer tube).

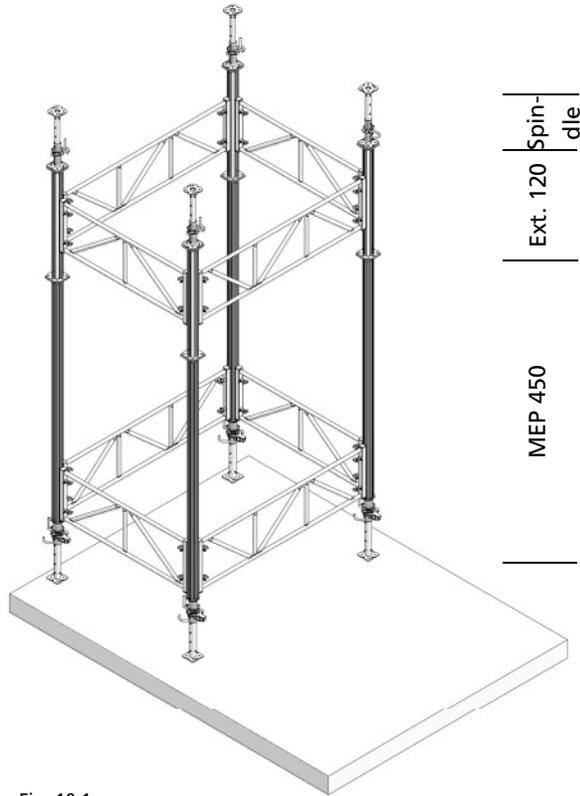


Fig. 10.1

**Fig. 10.2**

Four (4) MEP 450 and  
four (4) MEP 300  
joined with twelve  
(12) MEP frames.

Possible heights:  
15'-11" to 24'-7"  
(485 - 750 cm).

**Note:**

MEP 450 at bottom  
and MEP 300 at top  
with steel tubes at the  
very bottom and top  
respectively. The first  
two levels of frames  
are placed at the  
lowest and highest  
possible position on  
the bottom MEP 450.  
The third level of  
frames is placed at the  
highest possible  
position on the top  
MEP 300. The frames  
are attached to the  
post shores at the  
T-groove of the alu-  
minum profile (outer  
tube).

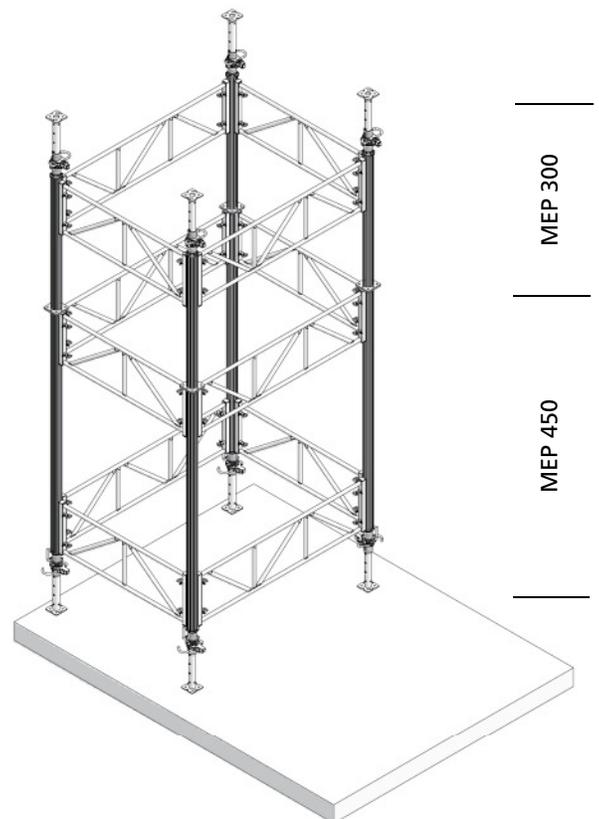


Fig. 10.2

## Height Combinations

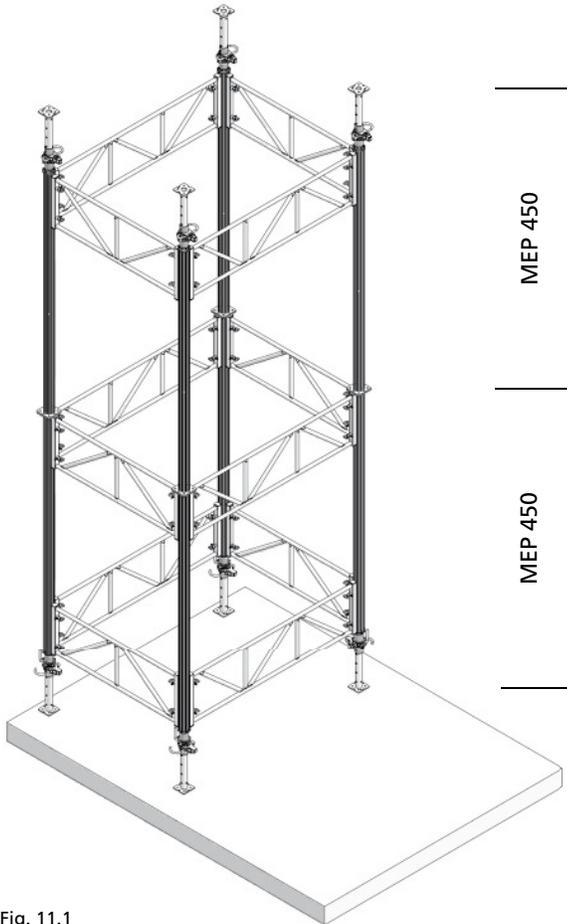


Fig. 11.1

**Fig. 11.1**

Eight (8) MEP 450 joined with twelve (12) MEP frames. Possible heights: 19'-8" to 29'-6 1/2" (600 - 900 cm).

**Note:**

MEP 450 at bottom and top with steel tubes at the very bottom and top respectively. The first two levels of frames are placed at the lowest and highest possible position on the bottom MEP 450. The third level of frames is placed at the highest possible position on the top MEP 450.

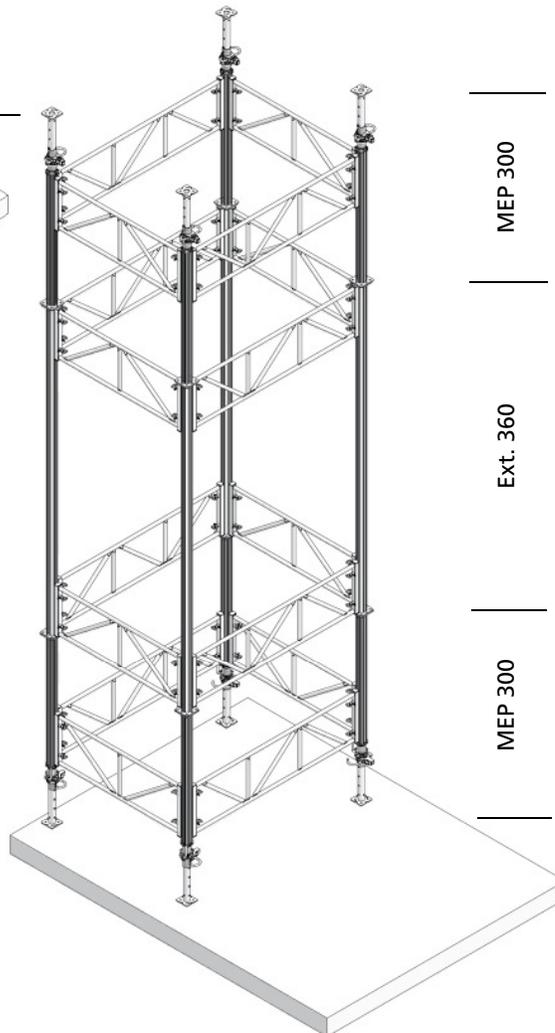


Fig. 11.2

**Fig. 11.2**

Eight (8) MEP 300 and four (4) MEP extensions 360 joined with sixteen (16) MEP frames. Possible heights: 23'-11 1/2" to 31'-6" (730 - 960 cm).

**Note:**

MEP 300 at bottom and top with steel tubes at the very bottom and top respectively. The first level of frames is placed at the lowest possible position on the bottom MEP 300. The second and third levels of frames are placed at the lowest and highest possible position on the extension 360. The fourth level of frames is placed at the highest possible position on the top MEP 300.

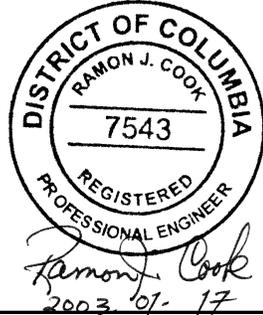
### Load Chart for towers shown on pages 8 - 11

| SAFE WORKING LOAD OF MEP SHORING-TOWERS (FULL SIZE TESTED ACCORDING TO ANSI A10.9-95, ACI 347R1999, SSFI STANDARDS) |                |              |              |                        |                   |                   |                                  |
|---|----------------|--------------|--------------|------------------------|-------------------|-------------------|----------------------------------|
| FRAME SIZE  | OVERALL HEIGHT | MEP 300      | MEP 450      | MEP 450 + MEP EXT. 120 | MEP 450 + MEP 300 | MEP 450 + MEP 450 | MEP 300 + MEP EXT. 360 + MEP 300 |
|   | ft [m]         | kips [KN]    | kips [KN]    | kips [KN]              | kips [KN]         | kips [KN]         | kips [KN]                        |
| WIDTH:  | 6.6 [2.00]     | 10.1 [45.0]* |              |                        |                   |                   |                                  |
|   | 3.61' [1.10 m] | 8.2 [2.50]   | 10.1 [45.0]  |                        |                   |                   |                                  |
| LENGTH:   | 9.8 [3.00]     | 7.9 [35.0]   | 10.1 [45.0]* |                        |                   |                   |                                  |
|   | 7.22' [2.20 m] | 11.5 [3.50]  | 10.1 [45.0]  |                        |                   |                   |                                  |
|   | 13.1 [4.00]    |              | 9.5 [42.5]   |                        |                   |                   |                                  |
|   | 14.0 [4.27]    |              | 9.0 [40.0]   | 10.1 [45.0]            |                   |                   |                                  |
|   | 14.8 [4.50]    |              | 6.8 [30.0]   | 10.1 [45.0]*           |                   |                   |                                  |
|   | 16.4 [5.00]    |              |              | 10.1 [45.0]            | 10.1 [45.0]       |                   |                                  |
|   | 18.0 [5.50]    |              |              | 9.0 [40.0]             | 10.1 [45.0]*      |                   |                                  |
|   | 19.7 [6.00]    |              |              |                        | 10.1 [45.0]*      | 10.1 [45.0]*      |                                  |
|   | 21.3 [6.50]    |              |              |                        | 10.1 [45.0]       | 10.1 [45.0]       |                                  |
|   | 23.0 [7.00]    |              |              |                        | 7.9 [35.0]*       | 10.1 [45.0]*      |                                  |
|   | 24.6 [7.50]    |              |              |                        | 5.6 [25.0]        | 10.1 [45.0]       | 10.1 [45.0]*                     |
|   | 26.2 [8.00]    |              |              |                        |                   | 9.0 [40.0]*       | 9.5 [42.5]*                      |
|   | 27.9 [8.50]    |              |              |                        |                   | 7.9 [35.0]        | 9.0 [40.0]*                      |
|   | 29.5 [9.00]    |              |              |                        |                   | 5.6 [25.0]        | 8.4 [37.5]*                      |
| 31.5 [9.60]   |                |              |              |                        |                   | 7.9 [35.0]        |                                  |

\* INTERPOLATED

Safety factor: 2.5:1; Values in chart are per leg

| SAFE WORKING LOAD OF MEP POST SHORES (FULL SIZE TESTED ACCORDING TO ANSI A10.9-95, ACI 347R1999, SSFI STANDARDS) |                |             |              |
|--|----------------|-------------|--------------|
|  | OVERALL HEIGHT | MEP 300     | MEP 450      |
|  | ft [m]         | kips [KN]   | kips [KN]    |
|  | 6.6 [2.00]     | 9.0 [40.0]* |              |
|  | 7.4 [2.25]     | 9.0 [40.0]* |              |
|  | 8.2 [2.50]     | 9.0 [40.0]* |              |
|  | 9.0 [2.75]     | 9.0 [40.0]  |              |
|  | 9.8 [3.00]     | 9.0 [40.0]  | 10.1 [45.0]* |
|  | 10.7 [3.25]    |             | 10.1 [45.0]  |
|  | 12.5 [3.80]    |             | 10.1 [45.0]  |
|  | 13.9 [4.25]    |             | 7.9 [35.0]   |
|  | 14.8 [4.50]    |             | 6.8 [30.0]   |



\* INTERPOLATED

Safety factor: 3:1; Values in chart are per leg

## MEP Forked Prop Head

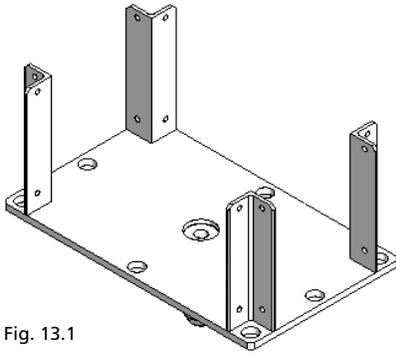


Fig. 13.1

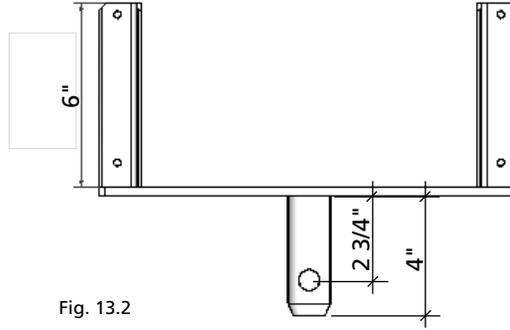


Fig. 13.2

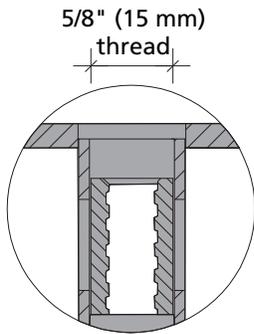


Fig. 13.3

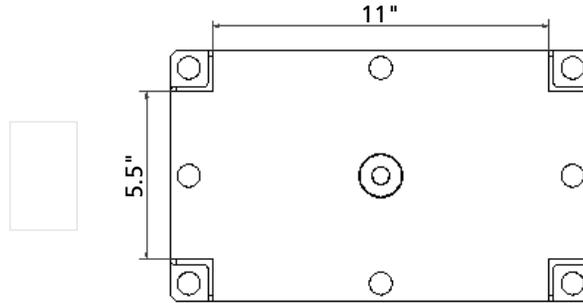


Fig. 13.4

The MEP forked prop head is designed to carry two W8x10 steel stringers, or aluminum joists with 5" flanges, or H20 wooden girders as shown in Fig. 13.5 to 13.7.

Fig. 13.3 illustrates the 5/8" (15 mm) threaded tube providing a simple method to clamp the stringers (steel, aluminum or wood) to the forked prop head using a 5/8" (15 mm) threadbar and flange nut 100.

The forked prop head is connected to the post shores by using MEP pins. The MEP pin 14/90 is used if connected to the inner tube of the post shore; the MEP pin 14/135 is used if connected to the outer tube of the post shore.

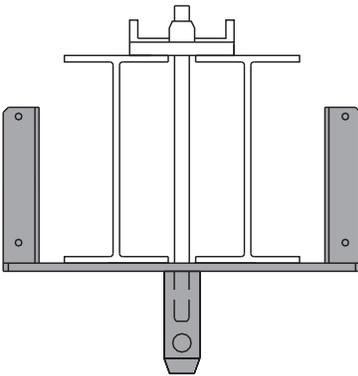


Fig. 13.5

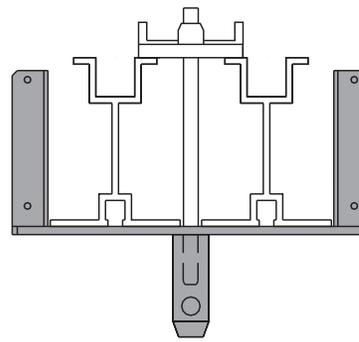


Fig. 13.6

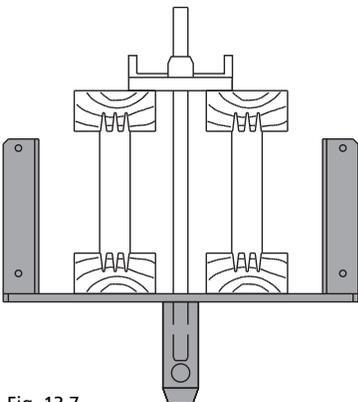


Fig. 13.7

| Description                | Ref.-No.  |
|----------------------------|-----------|
| MEP forked prop head ..... | 29-910-55 |

## MEP Diagonal Cross Brace

**Fig. 14.1**

If you have adaptations to make, for example with MevaDec if the direction of the primary beams changes, and the regular MEP frames do not fit, you can use MEP cross braces (170/90 or 300/180). 170/90 (5.58'/2.95') or 300/180 (9.84'/5.9') stands for the maximum or minimum dimension you can work with.

**Fig. 14.2**

When using cross-braces with table forms you can maximize the distance between the stringers and/or the distance between the post shores.

The MEP cross braces are also attached to the aluminum outer tubes of the MEP post shores or to the MEP extensions by using hammerhead screws (provided with the cross braces).

MEP cross braces used in conjunction with MevaDec

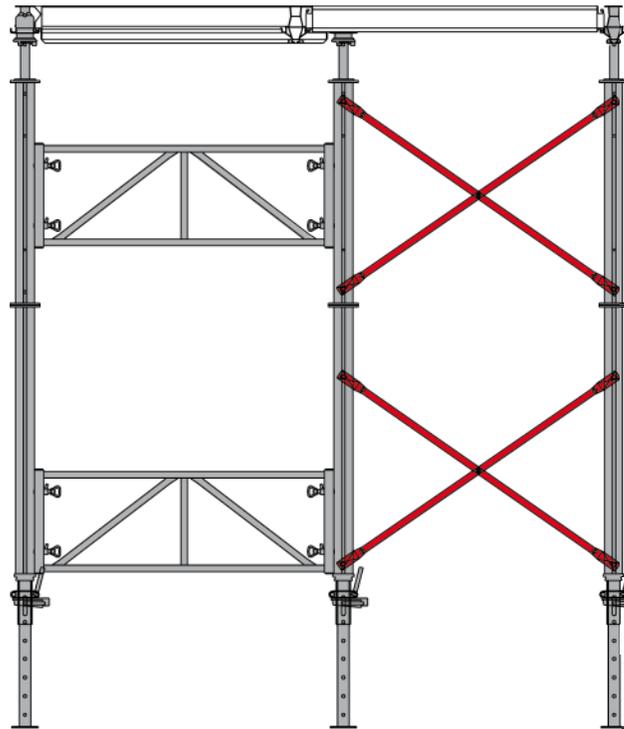


Fig. 14.1

MEP cross braces used in conjunction with table forms

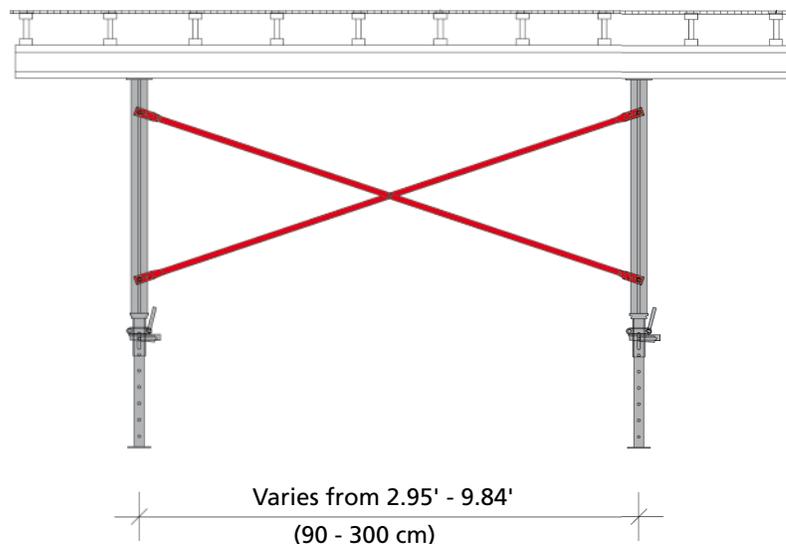


Fig. 14.2

| Description                               | Ref.-No.         |
|---|------------------|
| MEP diagonal cross brace<br>300/180 ..... | <b>29-909-55</b> |
| MEP diagonal cross brace<br>170/ 90 ..... | <b>29-909-60</b> |

## MEP Calotte Support

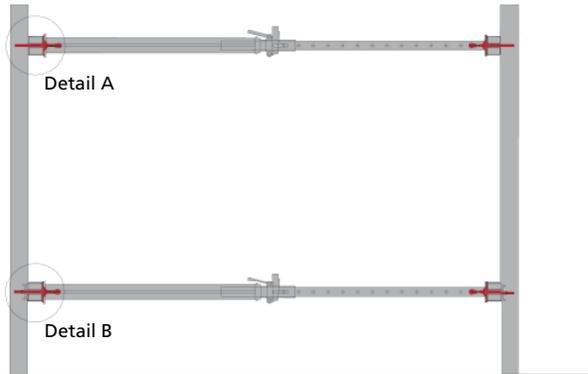


Fig. 15.1

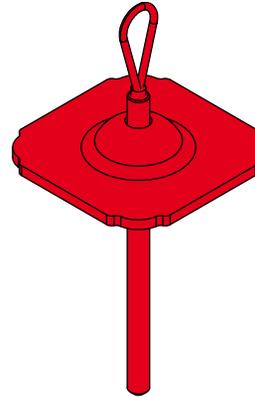
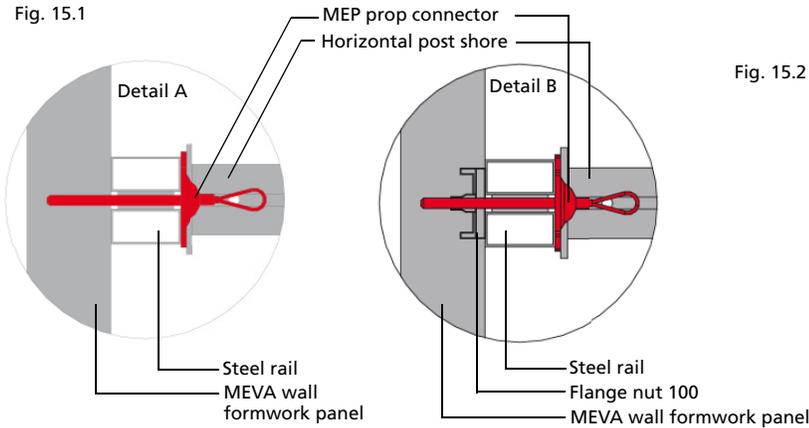


Fig. 15.2 MEP prop connector

The MEP prop connector is used to connect horizontal post shores to MEVA wall formwork panels, e.g. when used as single sided formwork (Fig. 15.1 and 15.2). The MEP prop connector can be used in combination with MEP, ME and MD post shores. There are two possibilities of attachment:

1. Mounting of MEP prop connector through steel rail at welded-in DW threaded nut of wall formwork panel (Detail A).
2. Mounting of MEP prop connector through steel rail by using a flange nut 100 to counter (Detail B). The MEP prop connector is connected to the inner tube or spindle by using the pin 14/90, and to the outer tube by using the pin 14/135.

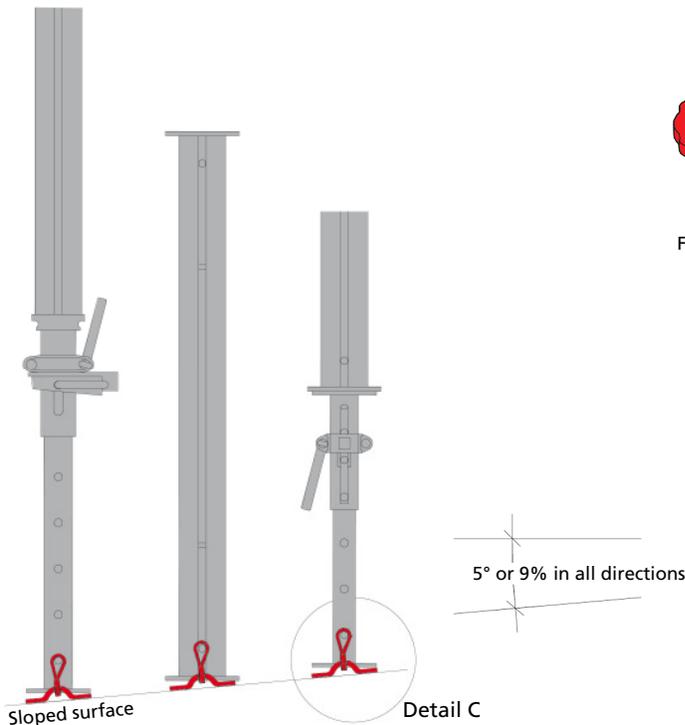


Fig. 15.4

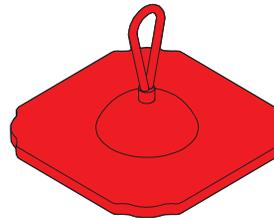


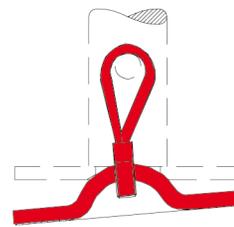
Fig. 15.3 MEP-calotte support

The MEP calotte support allows for perpendicular load transfer on sloped surfaces (Fig 15.3 and 15.4).

The maximum slope in all directions is 5° or 9%.

The MEP calotte support can be used with the inner and the outer tubes of the MEP post shores, the MEP extensions and the spindles.

The calotte support is connected to the inner tube or spindle by using the pin 14/90, and to the outer tube by using the pin 14/135.



Detail C

| Description               | Ref.-No.  |
|---------------------------|-----------|
| MEP calotte support ..... | 29-909-75 |
| MEP prop connector .....  | 29-910-62 |
| Pin 14/135 .....          | 29-909-90 |
| Pin 14/ 90 .....          | 29-909-94 |

## MEP Folding Part

To avoid the dismantling of tables, the MEP folding part allows the hinging of legs so that towers may be moved out of buildings with proper clearance underneath spandrel beams and over parapets.

The two pins are secured with a cotter pin provided with the folding part.

The MEP folding part is bolted to the foot plates (outer tubes) of the MEP post shores or to the MEP extensions by using four (4) of each M 16 bolts and nuts.

To fly the table out of the building by using a C-hook, remove the pin, fold up the leg and secure it (see page 31).

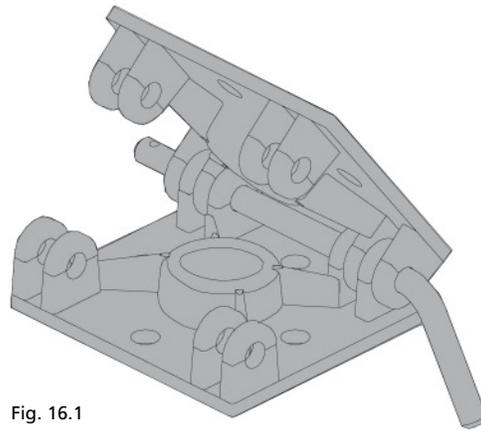


Fig. 16.1

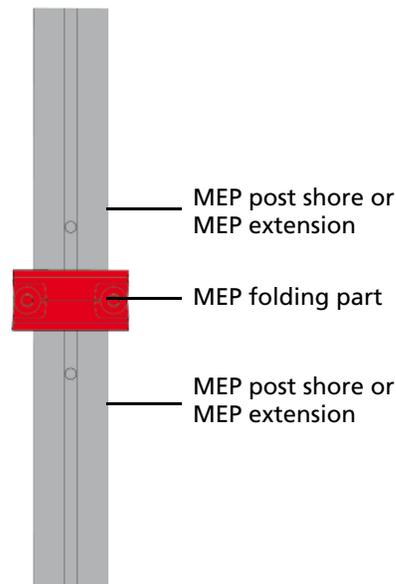


Fig. 16.2

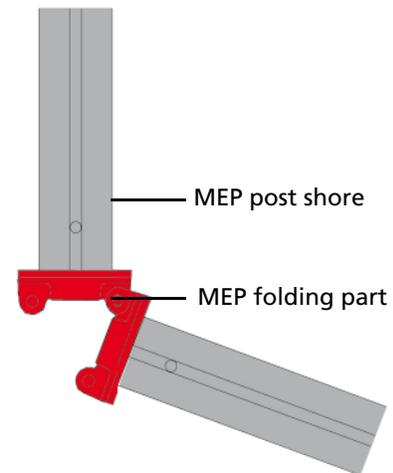
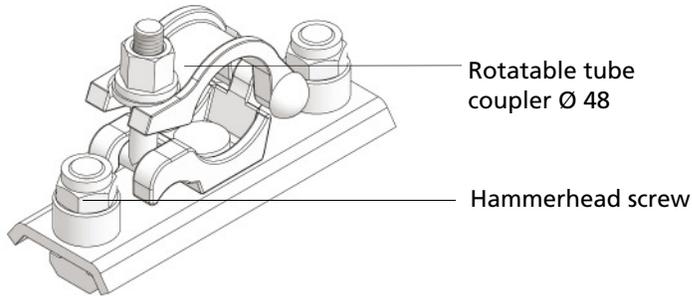


Fig. 16.3

| Description      | Ref.-No.   |
|------------------|------------|
| MEP folding part | .29-910-10 |
| Bolt M16x40      | .63-120-49 |
| Locking nut M16  | .63-130-00 |

## MEP Tube Coupler DK 48



The tube coupler DK 48 allows for attaching scaffold tubes ( $d = 2'' / 48 \text{ mm}$ ) to the MEP shoring system. Scaffold tubes are used to take lateral forces and/or as railing.

Fig. 17.1

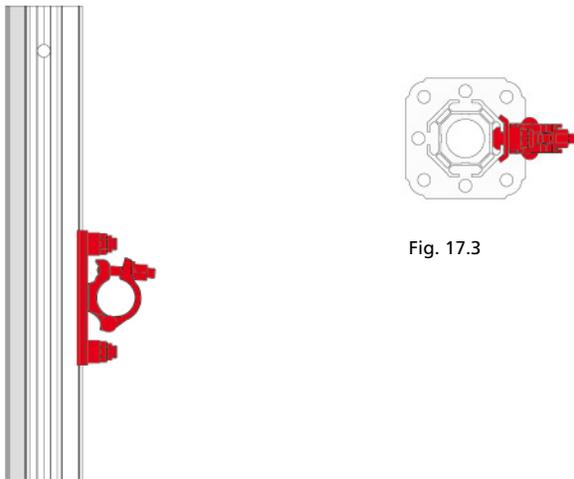


Fig. 17.2

Fig. 17.3

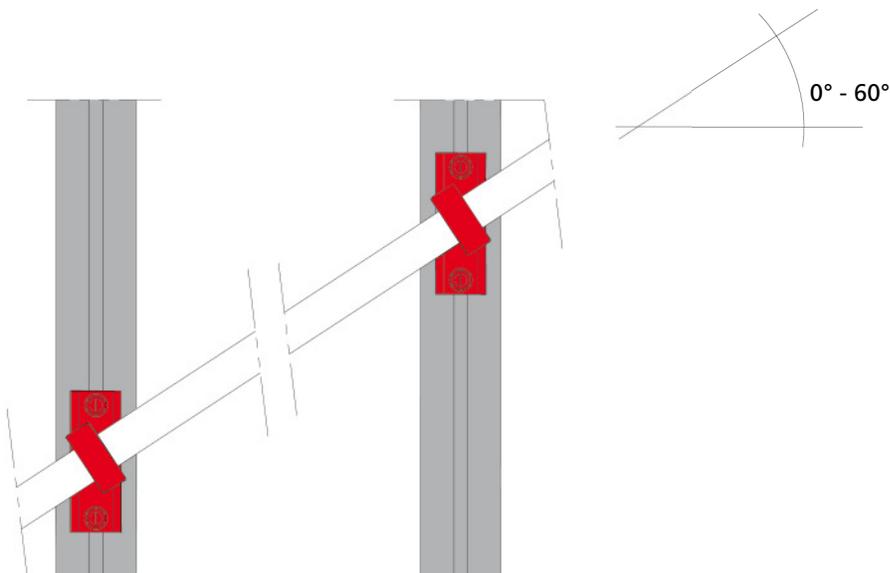


Fig. 17.4

| Description                  | Ref.-No.  |
|------------------------------|-----------|
| MEP tube coupler DK 48 ..... | 29-909-65 |

## MEP Connector for Push-Pull Props

The MEP connector for push-pull props allows for attaching braces to the outer tubes of the MEP post shores or MEP extensions (Fig.18.1 - 18.3). Attach the push-pull prop connector in the same way you attach the frames.

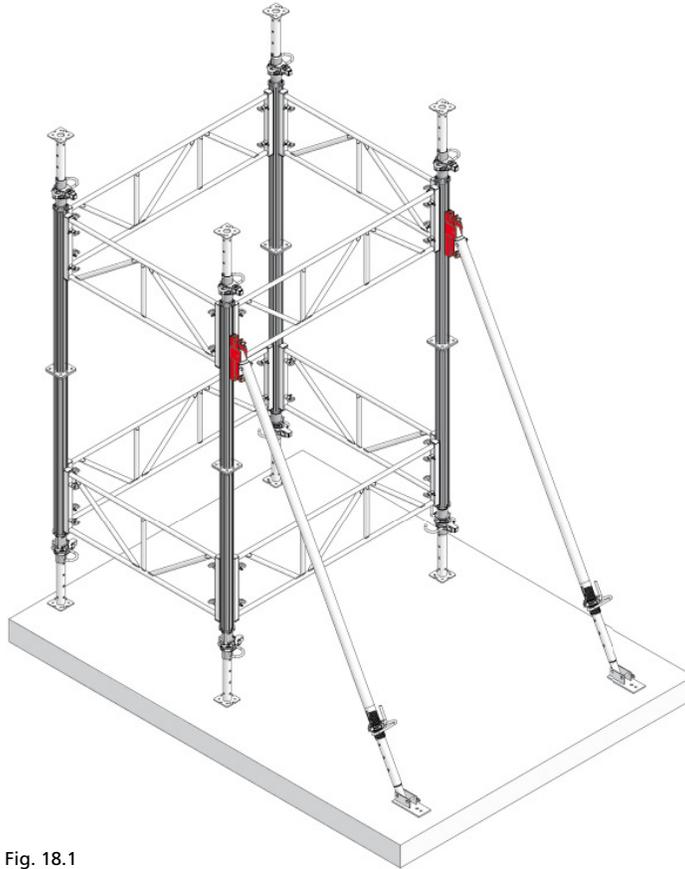


Fig. 18.1

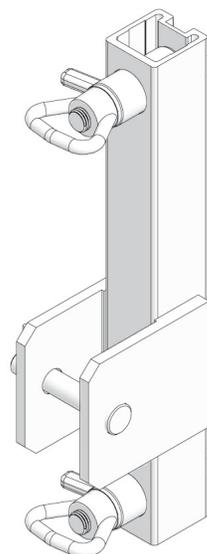


Fig. 18.2

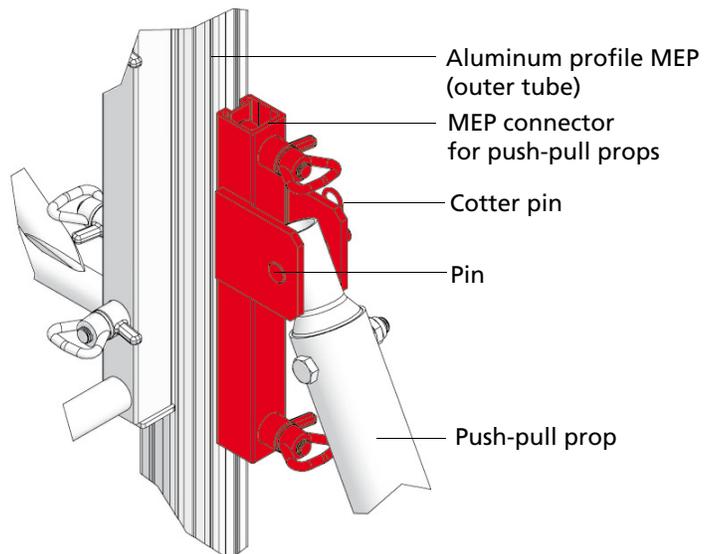


Fig. 18.3

| Description                          | Ref.-No.  |
|--------------------------------------|-----------|
| MEP connector for push-pull props... | 29-910-60 |

## MEP Scaffold Platforms

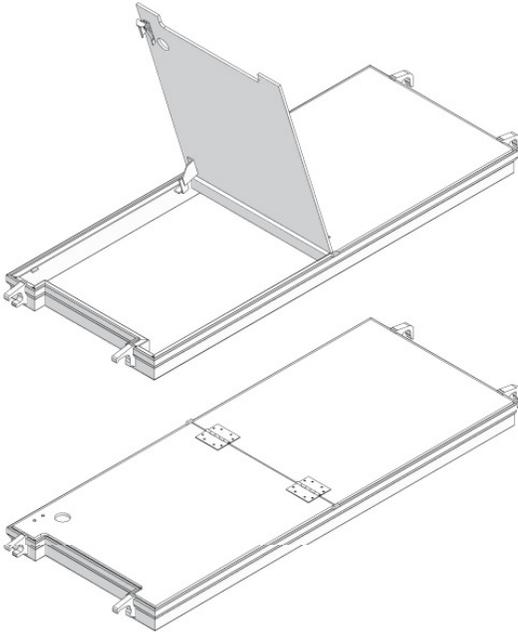


Fig. 19.1

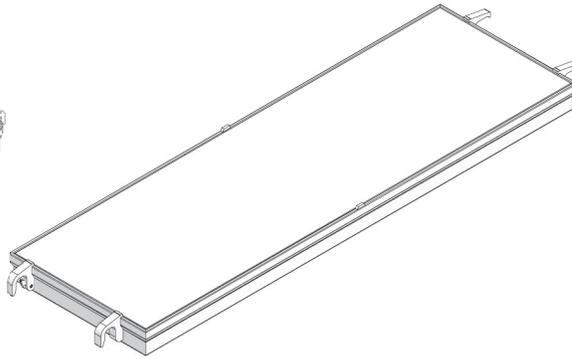


Fig. 19.2

The MEP scaffold platforms consist of aluminum frames and wooden planks (Fig. 19.1 and 19.2). Attach one side of the MEP scaffold platform to the lower or upper bar of the MEP frame; the other side secures itself by a self-locking mechanism (Fig. 19.3 and 19.4).

Maximum capacity is 41 psf (200 Kg/m<sup>2</sup>).

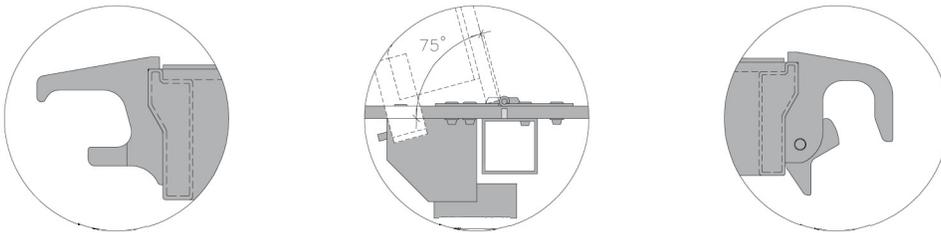


Fig. 19.3

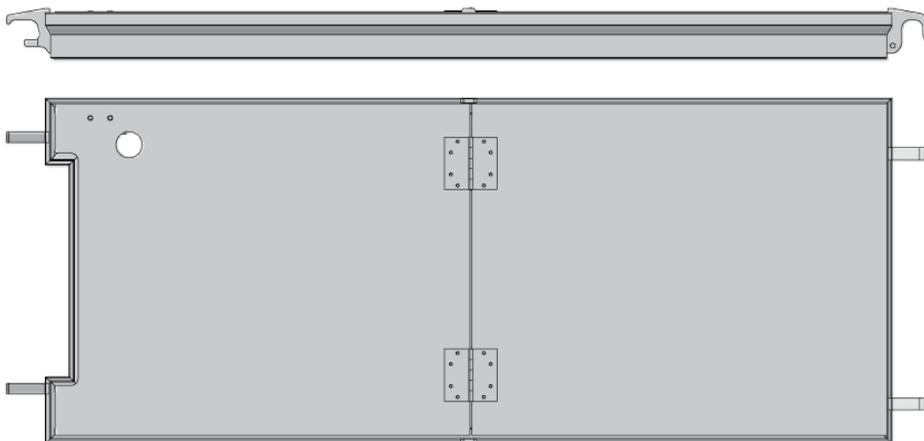


Fig. 19.4

| Description                                 | Ref.-No.  |
|---|-----------|
| <b>MEP scaffold platforms</b>               |           |
| 220/52 .....                                | 29-910-20 |
| 170/52 .....                                | 29-910-25 |
| 170/33 .....                                | 29-910-30 |
| Scaffold platform 170/66 with access hatch. | 29-910-35 |
| MEP ladder for hatchway.....                | 29-910-65 |

## Applications for MEP Shoring System

As single post shore  
(Fig. 20.1).

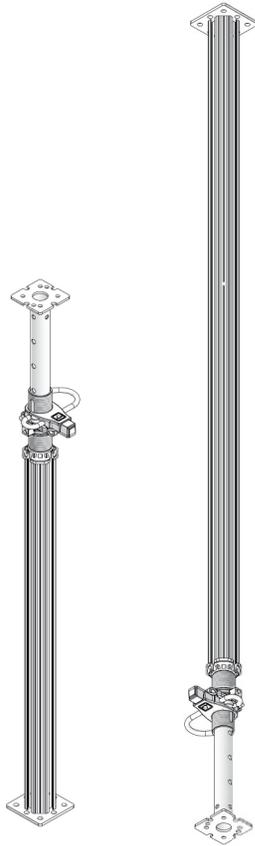


Fig. 20.1

In conjunction with  
MevaDec (Fig. 20.2).

**Note:**

If MEP towers are used in combination with MevaDec we recommend the use of the pluggable drop-head.

We also recommend that the extension pieces are always attached with plug connectors and pins. If a height extension is required it is also recommended to use an additional spindle on top of the extension to give extra adjustment and to facilitate the levelling.

For details about MevaDec see TIM MevaDec.

MEP-20

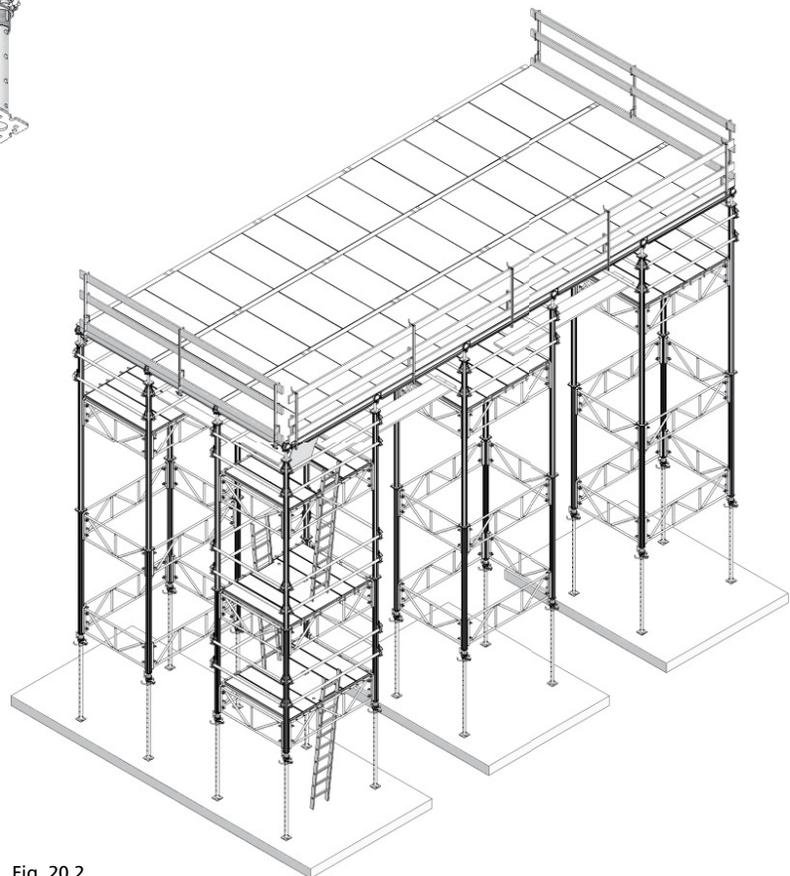


Fig. 20.2

## Applications for MEP Shoring System

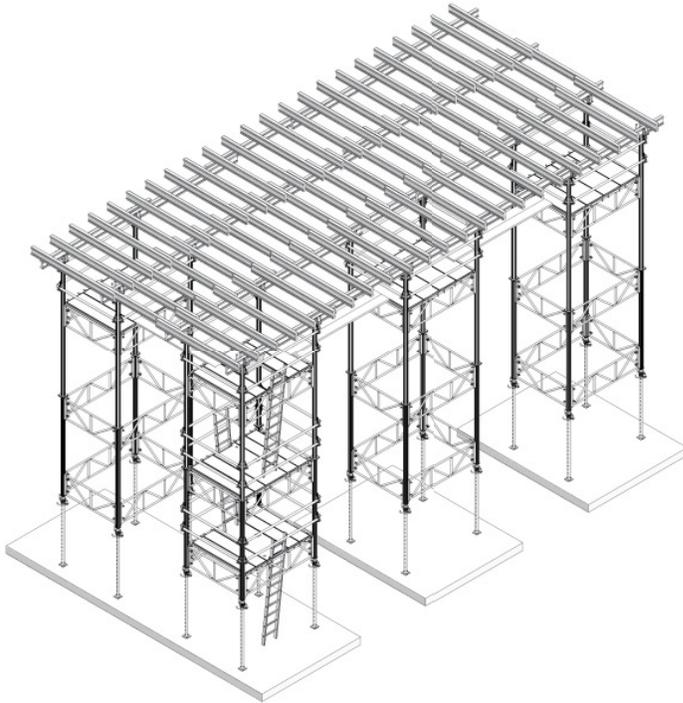


Fig. 21.1

In conjunction with MevaFlex (Fig. 21.1).

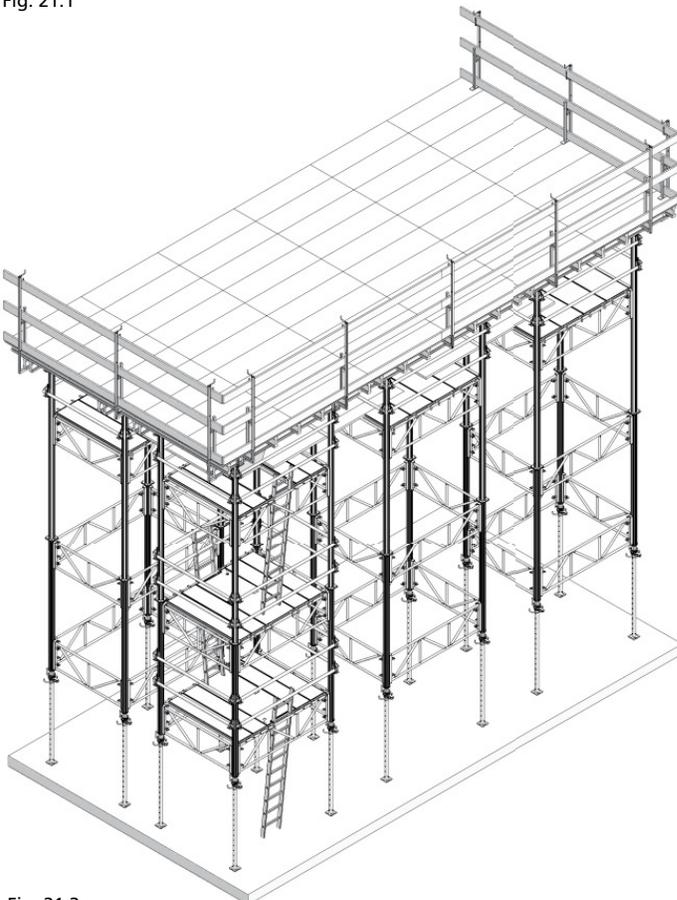


Fig. 21.2

As tables (Fig. 21.2).

**Attention:**  
Always observe the federal, state and local codes and regulations when using our products.

## Tower Assembly

It is highly recommended that MEP shoring towers are assembled on a flat surface.

**Fig. 22.1**

Place the MEP post shores and MEP extensions on squared timbers.

Attach the MEP frames to the T-groove of the outer tubes of the post shores. At the lower post shores, the first level of frames is attached at the lowest possible position. The second level of frames is attached at the top of the lower post shores. At the upper post shores, the third level of frames is attached at the highest possible position.

**Fig. 22.2**

After mounting the frames to the outer tube, the hammer-head screws must be in horizontal position. This makes it easy for the user to check for a sturdy connection between the post shore and frame (see page 6).

When scaffold platforms are mounted, a side railing must be attached by using tube couplers DK 48 and scaffold tubes ( $d = 2" / 48 \text{ mm}$ , see page 17).

It is recommended that the railing is attached when the tower is in horizontal position. For more details about the location of the frames please see pages 8 - 11.

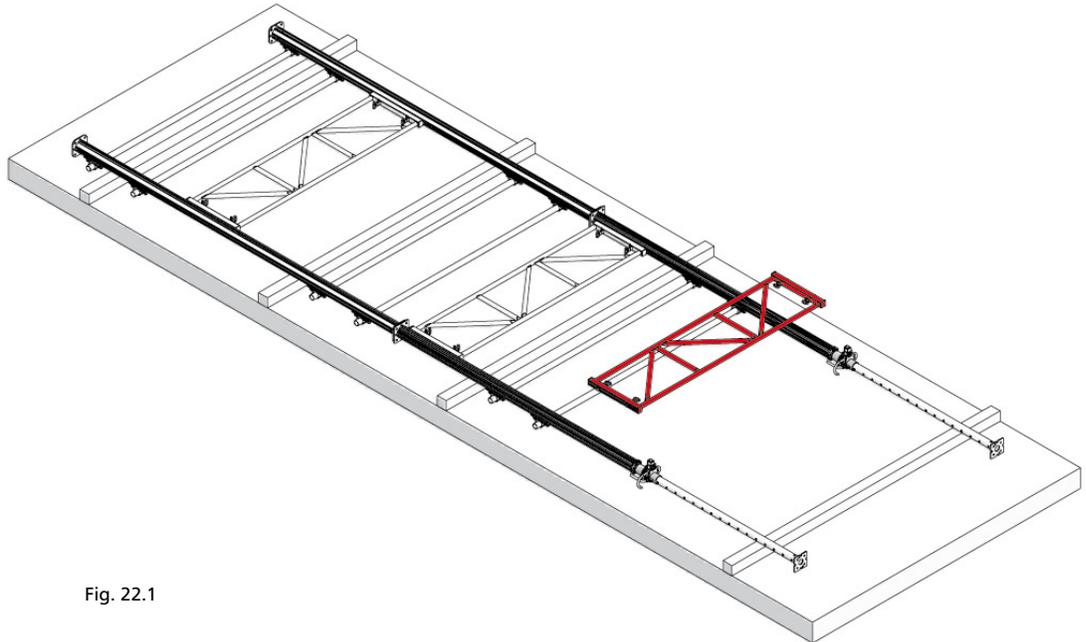


Fig. 22.1

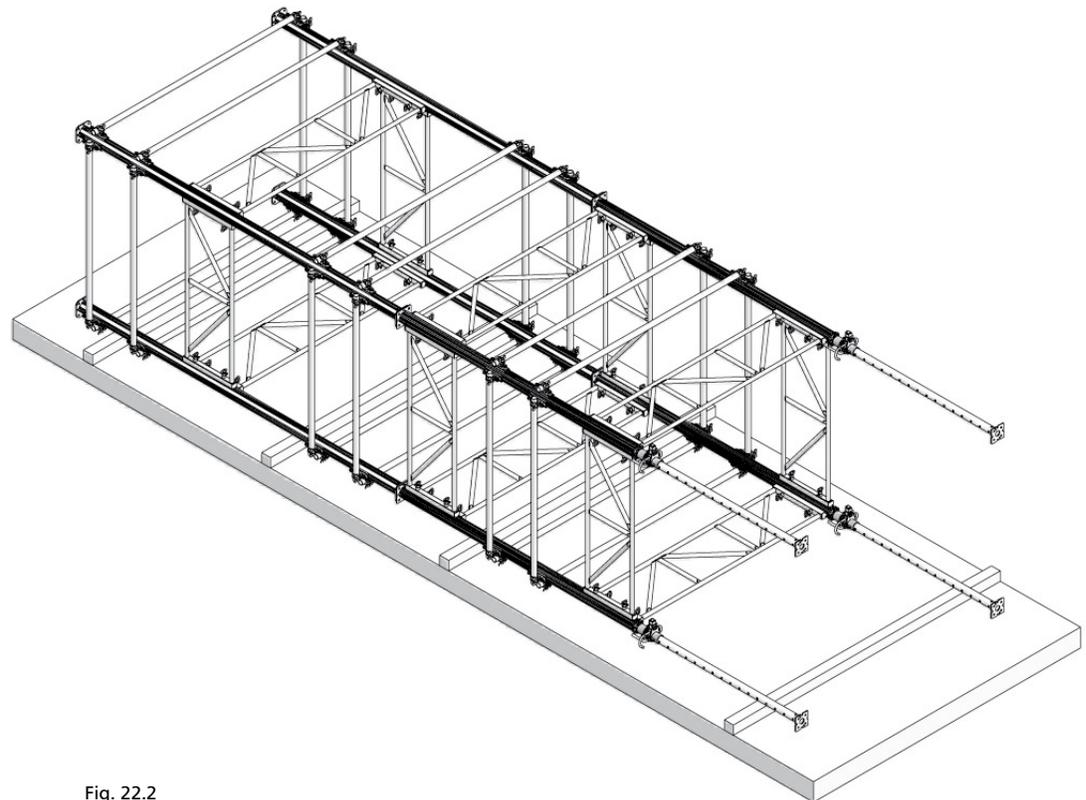


Fig. 22.2

## Tower Assembly

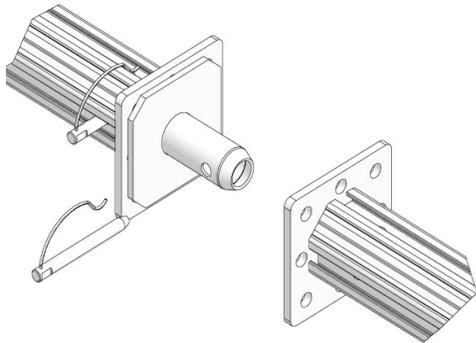


Fig. 23.1

**Fig. 23.1**

To extend the MEP post shores, MEP extensions can be attached by using plug connectors and two pins 14/135. This provides a tight connection for crane handling.

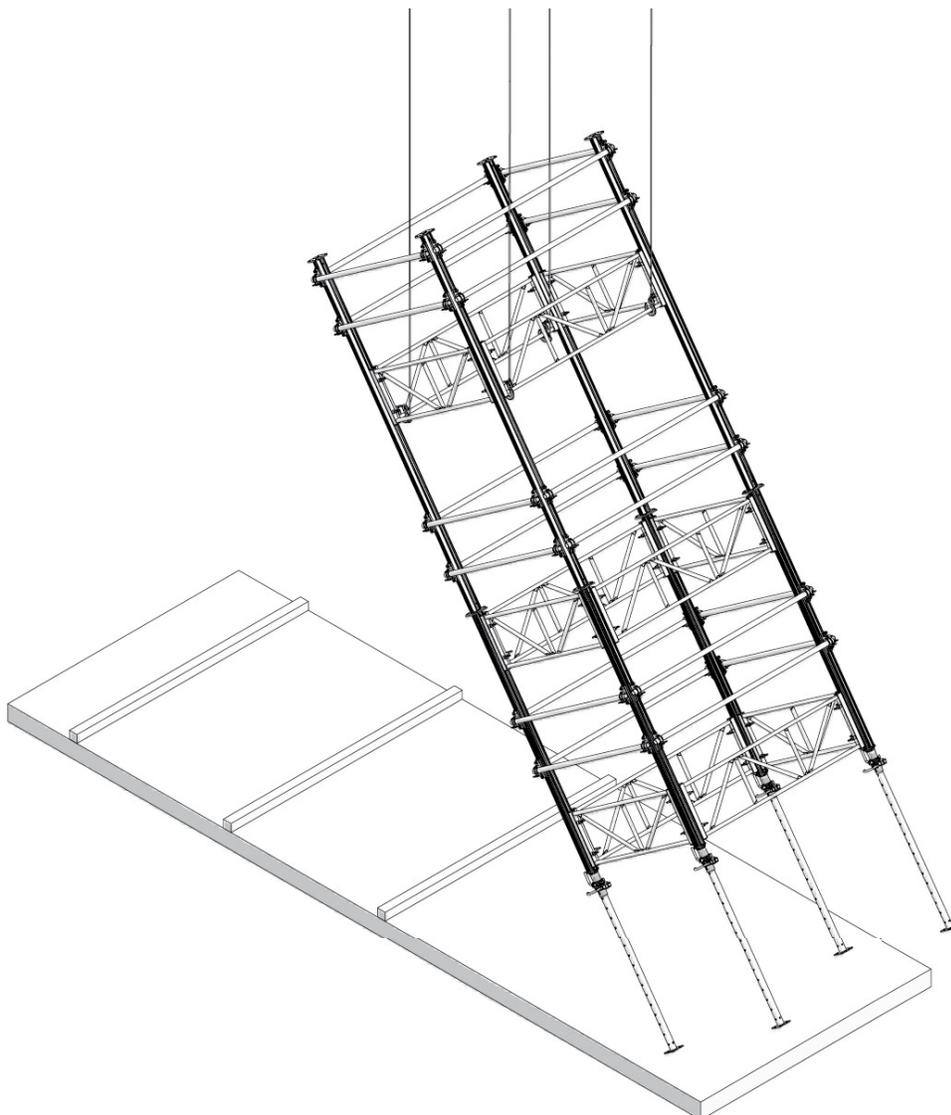


Fig. 23.2

**Fig. 23.2**

The MEP towers are lifted with an appropriate lifting device and a 4-rope crane sling. If the tower is less than 30' (9.0 m) high the crane slings are attached to the lower bar of the upper frame; if the tower is higher than 30' (9.0 m) the crane slings are attached to the upper bar of the second frame from top. The shoring system must be set in perpendicular position.

## Tower Assembly

**Fig. 24.1**

We recommend to mount the platforms after the towers are standing in a stable position. They can be attached at each of the bars of the MEP frames.

To be able to disengage the crane slings the MEP ladders must be installed between the different platform levels.

We recommend to place the first tower in the center of the building to be able to go from there in each and every direction.

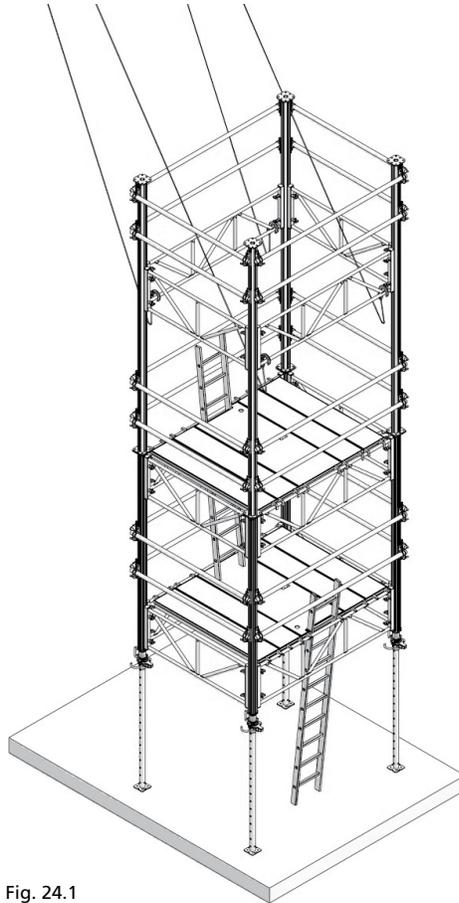


Fig. 24.1

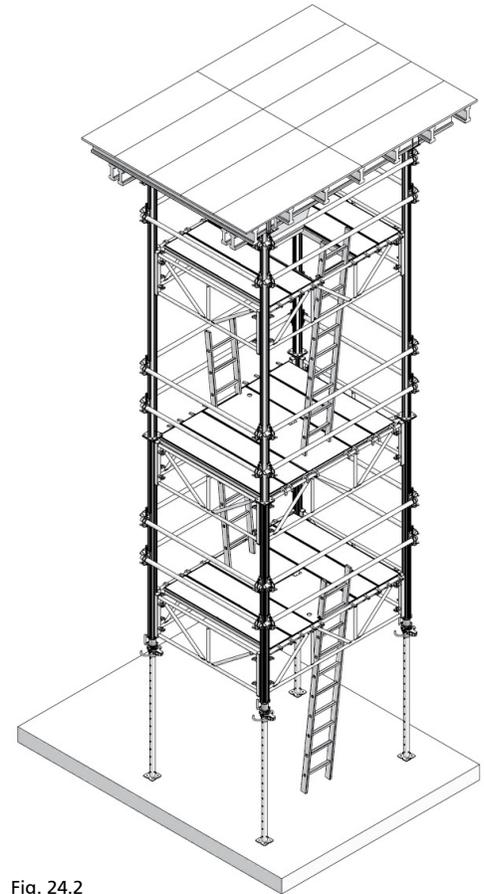


Fig. 24.2

**Fig. 24.3**

To be able to disengage the crane slings from the following towers planks have to be placed between two towers. This walkway can be used to install the platforms for the following towers. For your first tower you should always use MEP scaffold platforms with access hatch. This tower is the access for the whole shoring system. The other towers only need platforms on the top level. These platforms can either be MEP scaffold platforms or planks.

The superstructure which can be either MevaFlex (Fig. 24.2) or MevaDec (Fig. 24.3) is installed from the top platform level.

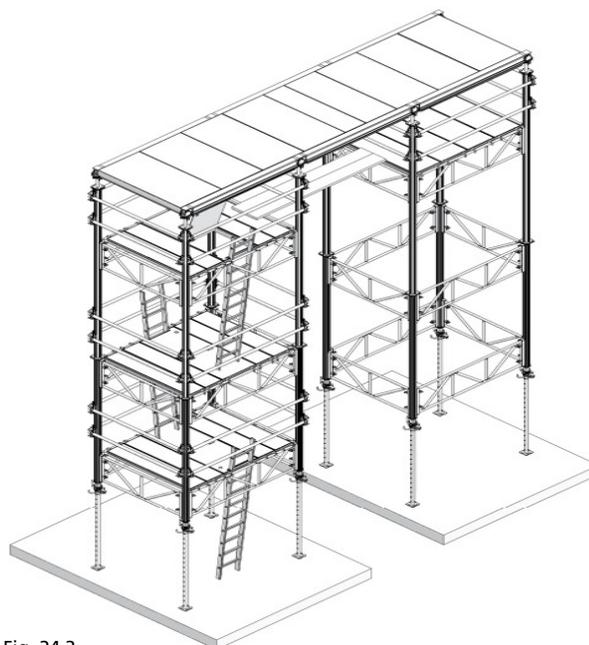
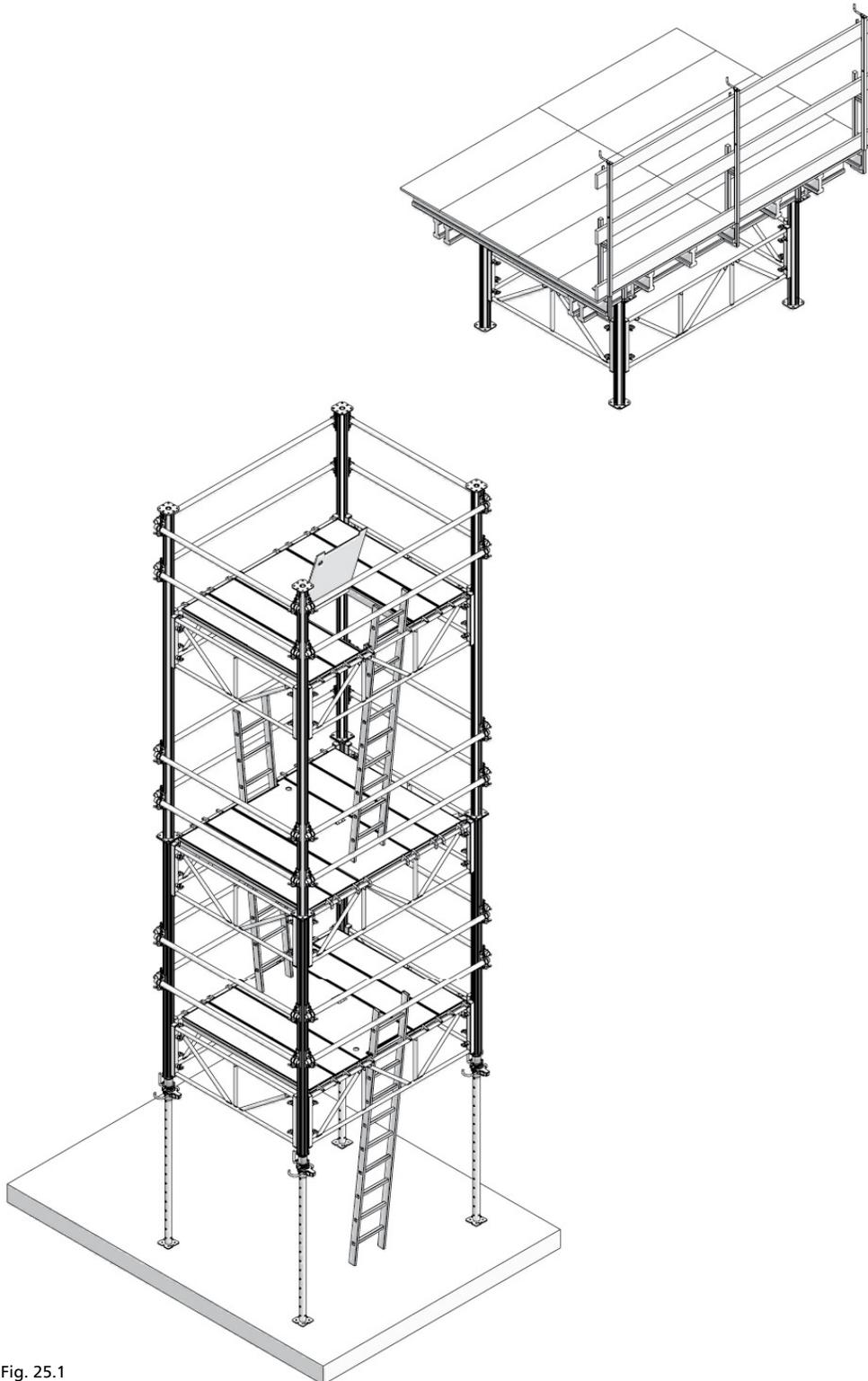


Fig. 24.3

## Tower Assembly



**Fig. 25.1**  
An alternative is to fly in the superstructure as a pre-built unit. The connection is achieved by plug connectors and pins as well. The procedure for the following towers is as described before.

Fig. 25.1

## Stripping

**Fig. 26.1**

After pouring, and after concrete has reached sufficient cure to allow stripping, just hit the quick-lowering system (SAS) with a hammer. This lowers the post shore approximately 1/2" and provides relief from the concrete load.

Spindle down the adjusting nut of the MEP post shore approximately 4" to 5" to disassemble the superstructure (Meva-Dec, steel, aluminum or H20).

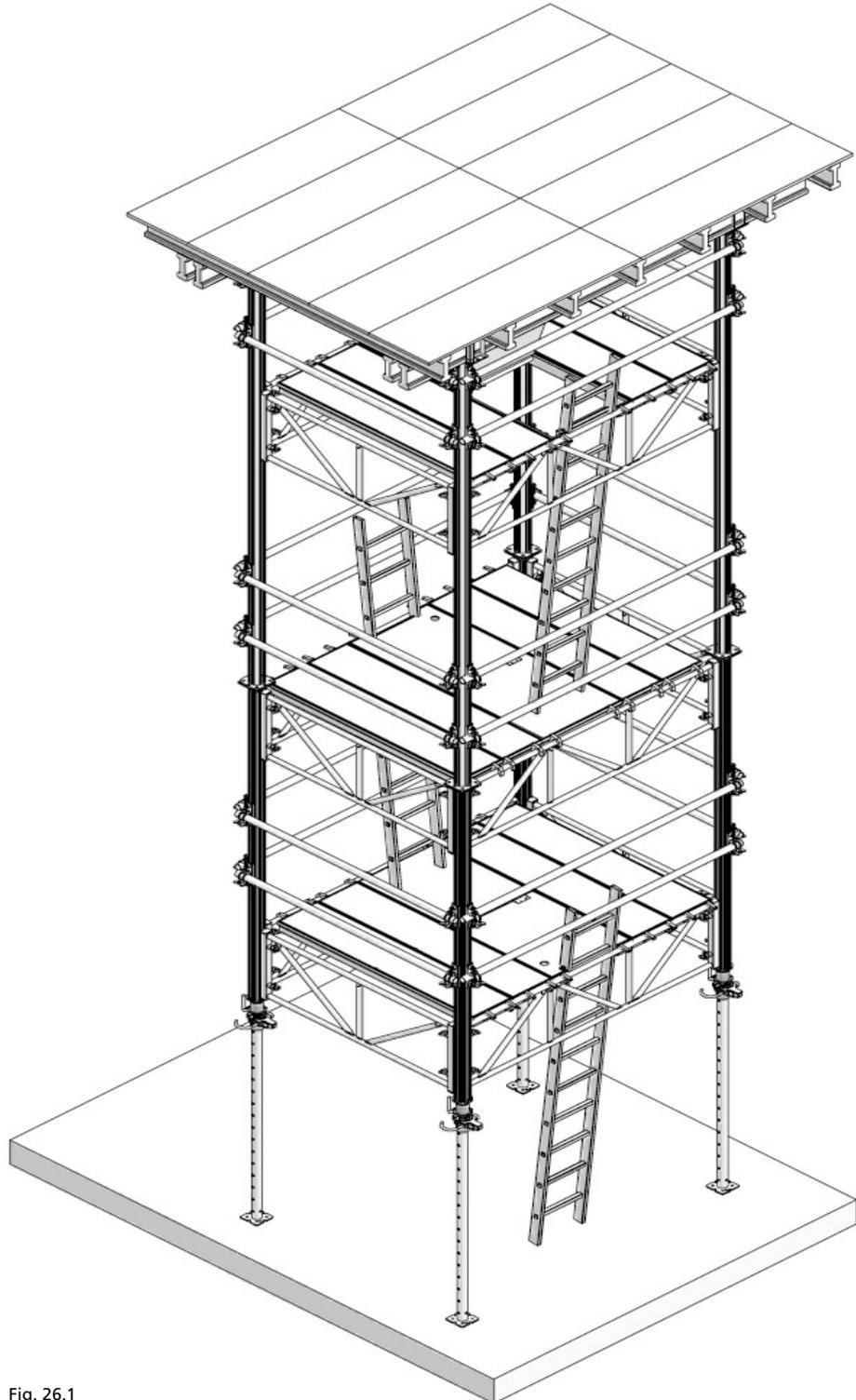
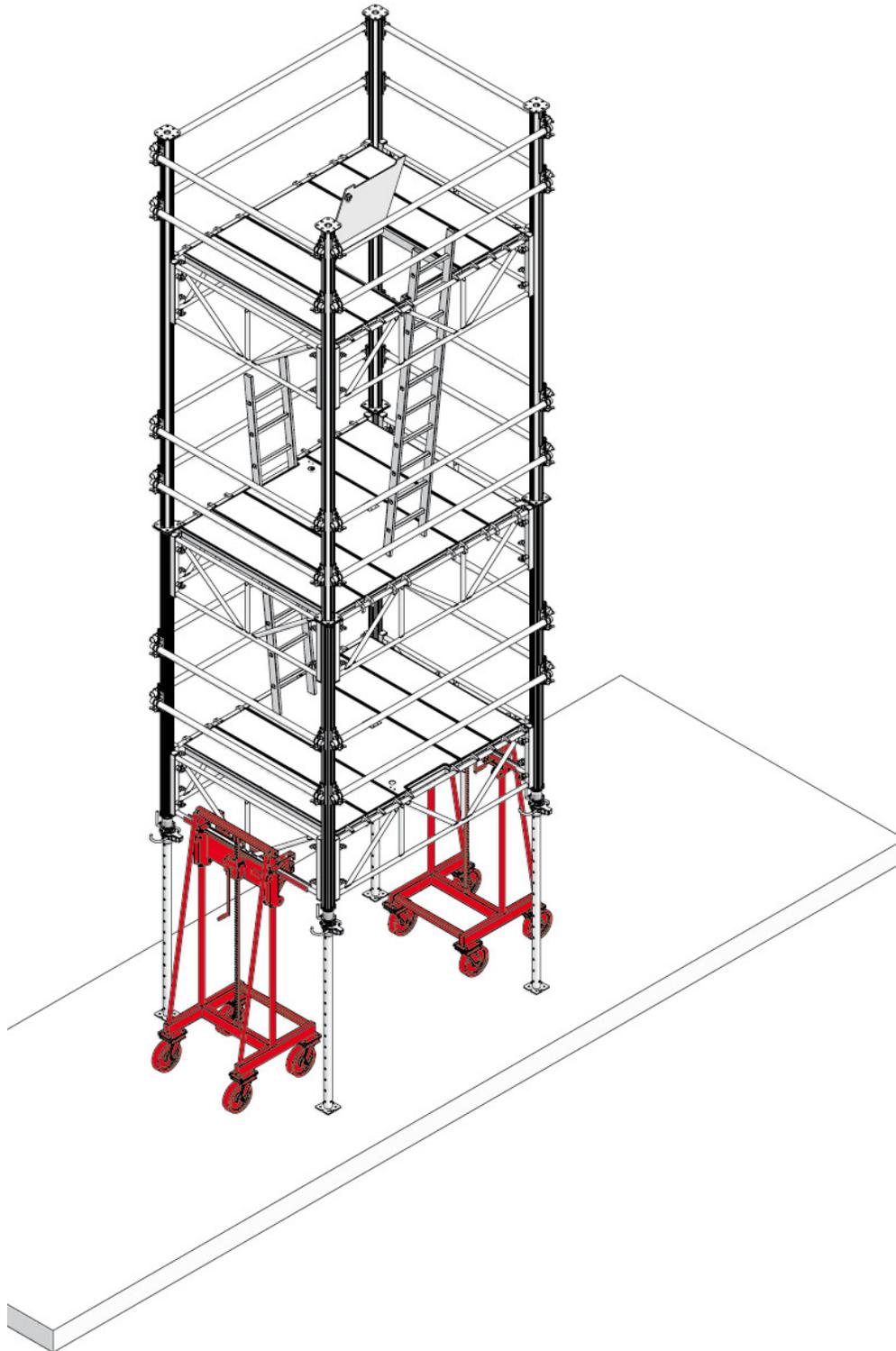


Fig. 26.1

## Stripping



**Fig. 27.1**

After the superstructure is disassembled you can move the towers by using MEP lift trucks.

As an alternative, you can move the towers in groups. Therefore, the towers must be connected with scaffold tubes to provide rigidity and stability. If the towers are very tall, guy ropes might be needed.

Fig. 27.1

| Description          | Ref.-No.  |
|----------------------|-----------|
| MEP lift truck ..... | 29-909-50 |

## Stripping

It is recommended, if possible, to disassemble the towers into different units as shown in Fig. 28.1. In this case, the disassembling can be done on the ground, which is safer and easier.

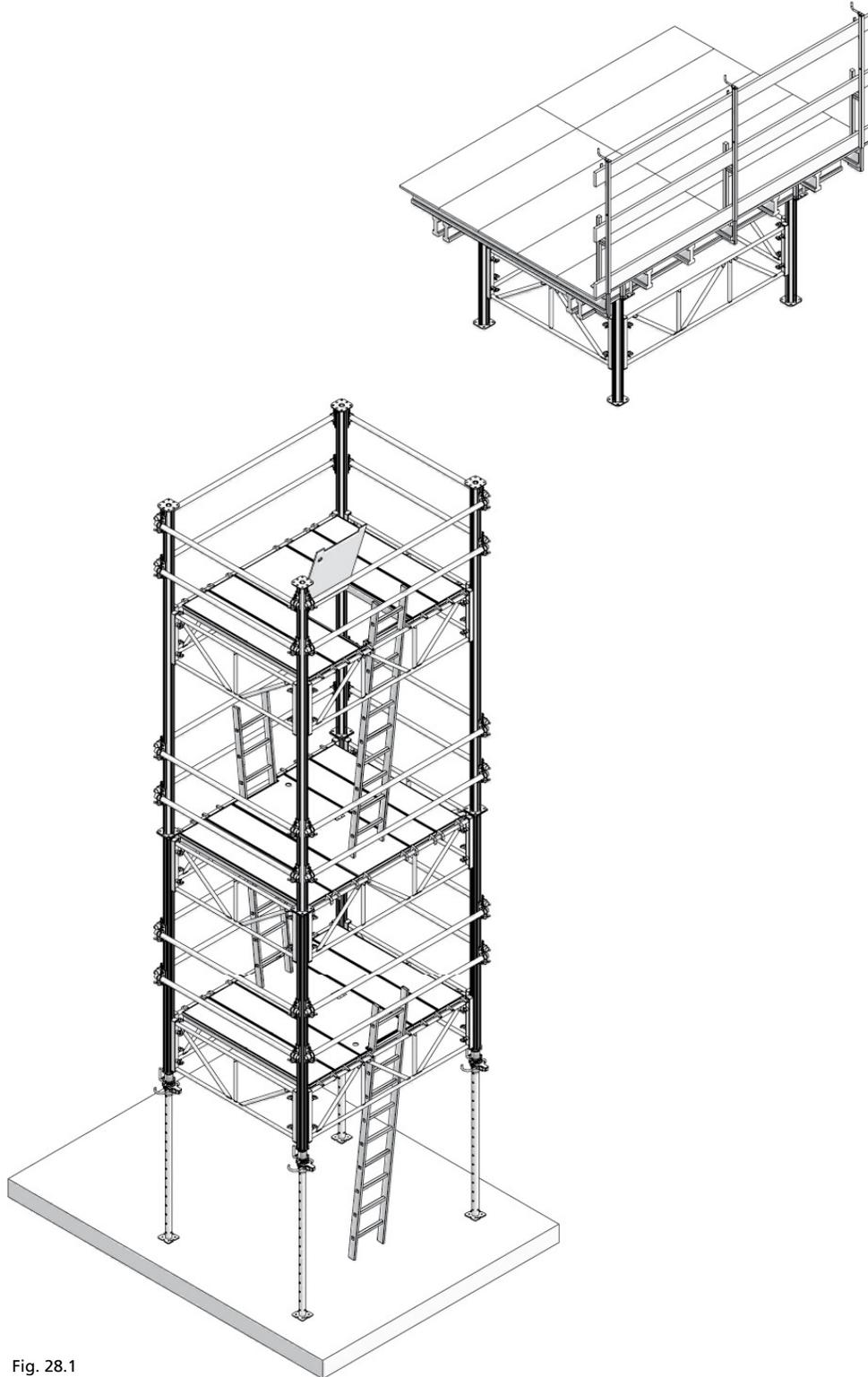


Fig. 28.1

## Crane Handling

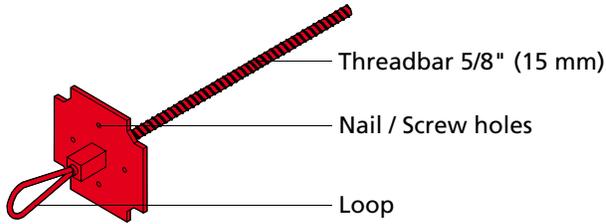


Fig. 29.1

**MEP crane hanger**  
 It is possible to fly tables by using the MEP crane hanger. The rated capacity of the crane hanger is 2,250 lbs. The MEP crane hanger can be used in combination with the MEP forked prop head. A MEVA flange nut 100 is required to attach the crane hanger to the table.

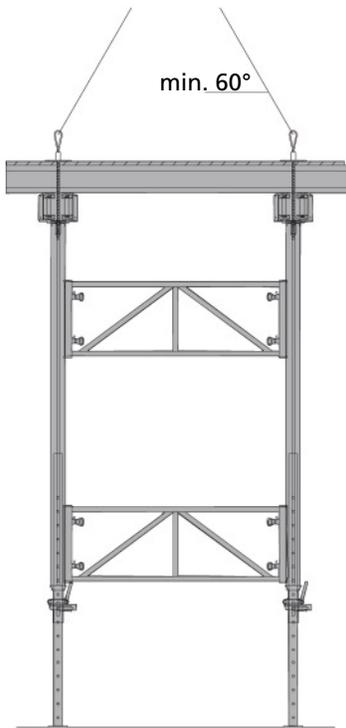


Fig. 29.2

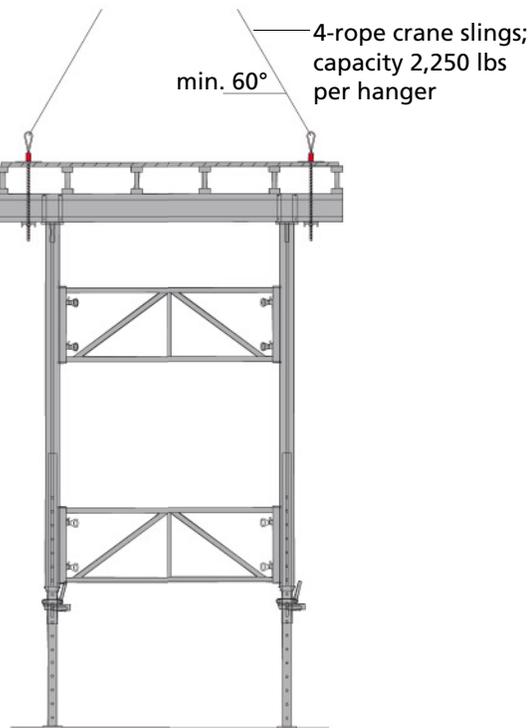


Fig. 29.3

### Detail A

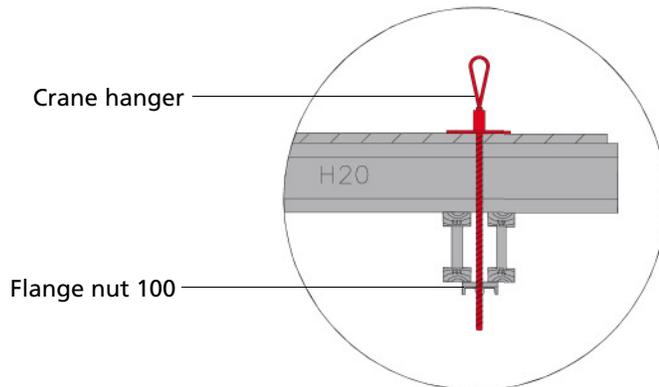


Fig. 29.4

| Description            | Ref.-No.  |
|------------------------|-----------|
| MEP crane hanger ..... | 29-910-05 |
| Flange nut 100 ...     | 29-900-20 |

## Crane Handling

### MEP lift truck

If you move a table with the MEP lift trucks, you need at least two of them. The lift truck has a safety mechanism protecting against uplift and tilting. The mechanism is attached to the top of the MEP frame. The height adjustment is achieved by using the jack. The maximum capacity per lift truck is 1,100 lbs. For dimensions see page 45.

#### How to use the lift truck:

- Move the lift truck to the required location.
- Adjust the height and place the safety mechanism across the frame.
- Adjust the post shore to a convenient height by using the G-hook.
- Lower the table or the shoring structure with the jack.
- Move the unit to the next location.
- Set the table in place.
- Jack up the lift truck.
- Pull out the inner tube of each leg and adjust the height with the G-hook.
- Remove the lift truck.

#### Attention:

Before you lift the table, make sure the safety mechanism is unlocked.

There are two methods of attaching to the frame:

- Short suspension (front) for MEP frame 110 (Fig. 30.3 ①).
- Long suspension (back) for MEP frames 170 and 220 (Fig. 30.3 ②).

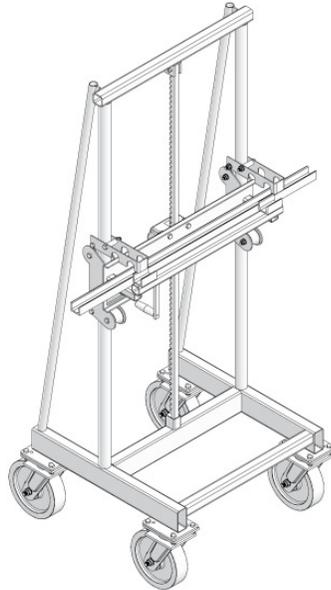


Fig. 30.1

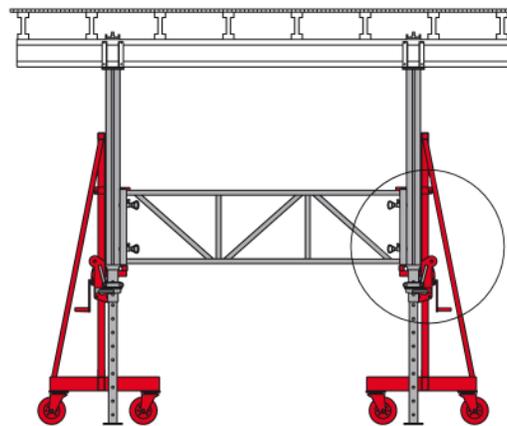


Fig. 30.2

In locked position

In unlocked position

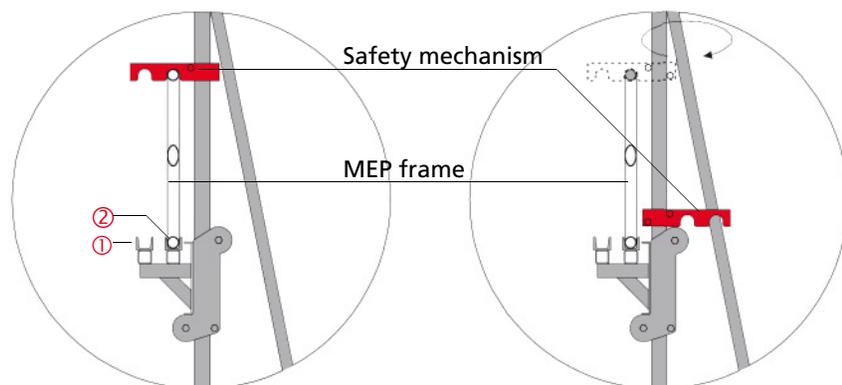


Fig. 30.3

Fig. 30.4

| Description          | Ref.-No.  |
|----------------------|-----------|
| MEP lift truck ..... | 29-909-50 |

## Crane Handling

**Transport spreader 250/540 (C-Hook)**  
The C-Hook allows easy transport of MEP tables from one level to another. For dimension see page 48.

- To move the tables:**
- Relieve the MEP post shores of concrete load by using the quick-lowering system (SAS).
  - Position the C-Hook beneath the table and lift it slightly.
  - Fold up the post shores with the MEP folding part, if required (parapet).
  - Move the whole table unit with the C-Hook to the next location.

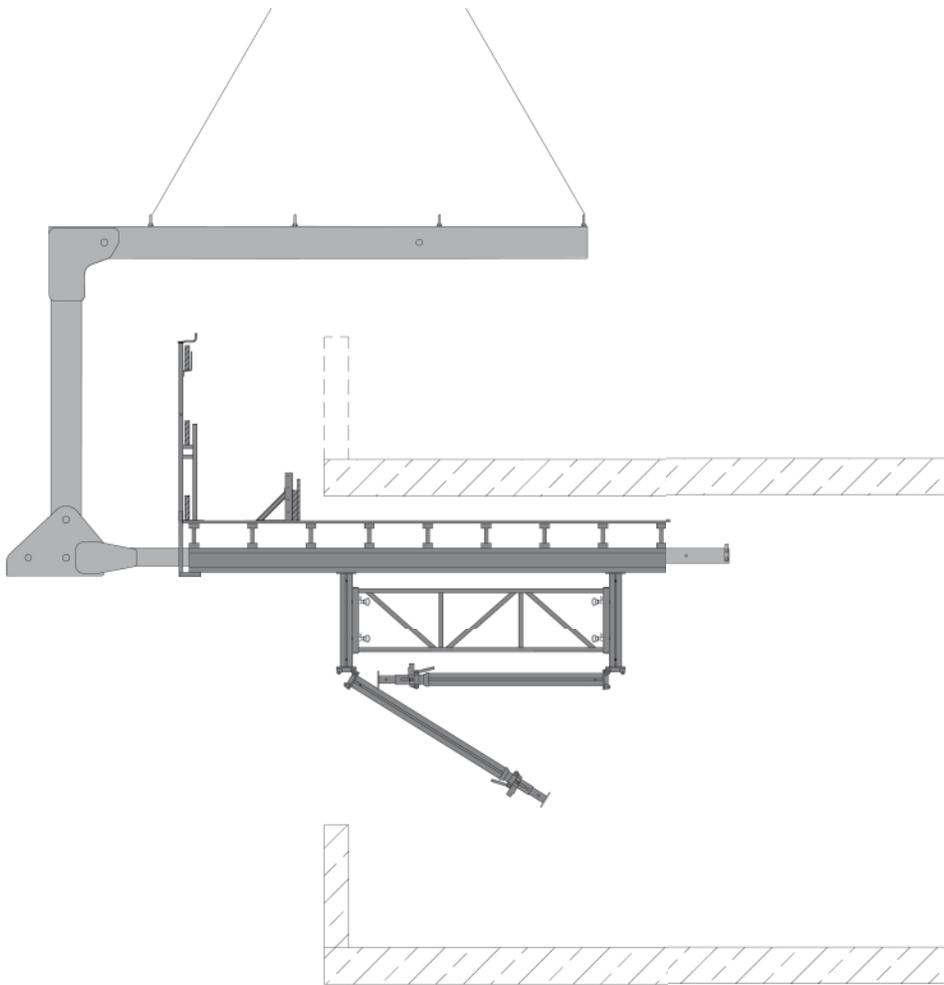


Fig. 31.1

| Description                     | Ref.-No.  |
|---------------------------------|-----------|
| Transport spreader 250/540..... | 29-910-90 |

## Transport of large MEP units with the transport waler

By using the transport waler MEP it is possible to move huge MEP tower units on the slab (Fig. 32.1). The supporting structure should be even and capable of bearing the weight of the MEP units.

The transport waler is 8' (2.4 m) long, has four (4) swivel castors and has a maximum load capacity of 6,600 lbs (3 t). By using the pre-assembled prop connectors (Fig. 32.1) it is easy to adapt the transport waler to the different MEP frame sizes (55, 110, 170 and 220). For moving an unit at least two (2) transport walers are necessary.

### Preperation

1. The whole unit has to be released of any load. Therefore the SAS quick-lowering system should be used on each MEP post shore.
2. Those post shores, which should be attached to the transport waler have to be pulled in (Fig. 32.2).

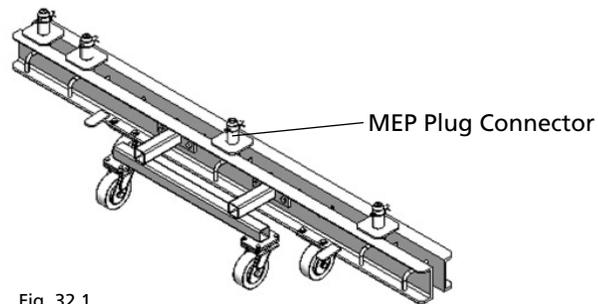


Fig. 32.1

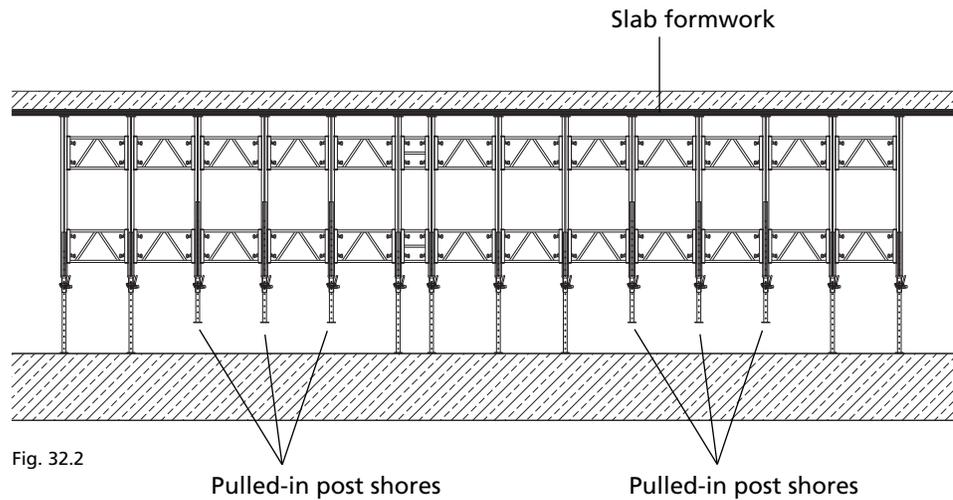


Fig. 32.2

| Description         | Ref.-No.  |
|---------------------|-----------|
| Transport waler MEP | 29-910-80 |

## Transport of large MEP units with the transport waler

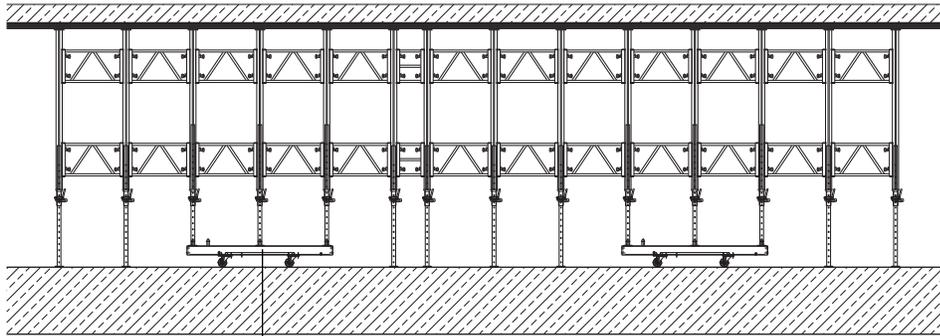


Fig. 33.1

Transport waler

Lowered MEP unit with pulled-in MEP post shores

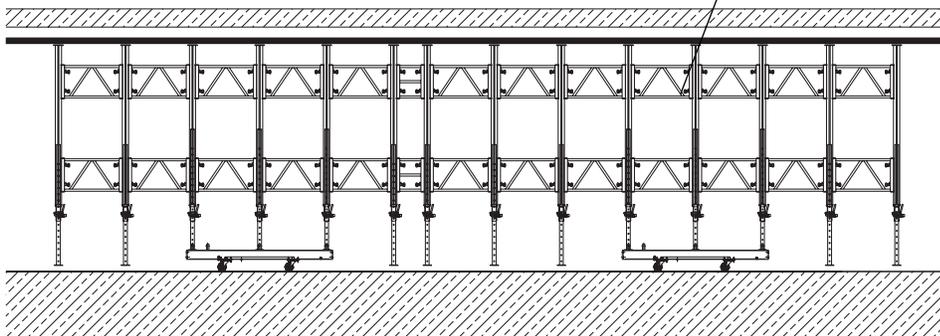


Fig. 33.2

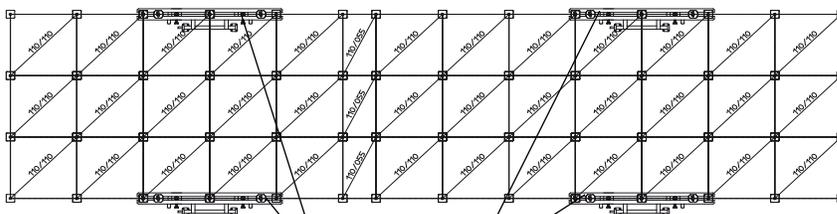


Fig. 33.3 Plan view

Transport walers

3. Move transport waler underneath of pulled in post shores.
4. Pull out post shores and attach them at the transport waler by using pins (Fig. 33.1).

### Transport

1. Pull in all other post shores which are not attached to the transport waler (Fig. 31.2).
2. Lower complete unit by using the post shores which are attached to the transport waler (Fig. 31.2).
3. Now the whole unit can be moved to the next location. A rough height adjustment is possible by using the post shores which are attached to the transport waler.
4. All other post shores can be pulled out, the transport waler can be disassembled and the post shores which were attached to the waler can be pulled out as well.

### Note:

The unit, shown in Fig. 33.1 to 33.3 weighs approx. 11,900 lbs (5.4 t) including slab formwork. The four (4) transport walers used in this example would be able to handle a total weight of 26,400 lbs (12 t). 4 x 6,600 lbs (4 x 3 t).

Please observe the operation manual of the transport waler MEP..

## Material List

MEP material list for different tower applications.

| MEP Tower Height   | MEP Tower Size             | MEP Post Shore 300 | MEP Post Shore 450 | MEP Frame 110 | MEP Frame 170 | MEP Frame 220 | MEP Extension 120 | MEP Plug Connector | Pin 14/135 | Nut and Bolt M16x40 | MEP Spindle |
|--|----------------------------|--------------------|--------------------|---------------|---------------|---------------|-------------------|--------------------|------------|---------------------|-------------|
| 5.1' - 6.56'<br>(1.55 - 2.00m)<br>MEP Extension 120 with MEP Spindle | 3.61'/3.61'<br>(110/110cm) |                    |                    | 4             |               |               | 4                 |                    |            | 16                  | 4           |
|  | 3.61'/5.58'<br>(110/170cm) |                    |                    | 2             | 2             |               | 4                 |                    |            | 16                  | 4           |
|  | 5.58'/5.58'<br>(170/170cm) |                    |                    |               | 4             |               | 4                 |                    |            | 16                  | 4           |
|  | 5.58'/7.22'<br>(170/220cm) |                    |                    |               | 2             | 2             | 4                 |                    |            | 16                  | 4           |
|  | 7.22'/7.22'<br>(220/220cm) |                    |                    |               |               | 4             | 4                 |                    |            | 16                  | 4           |
| 6.08' - 9.84'<br>(1.85 - 3.00m)<br>1 x MEP 300                       | 3.61'/3.61'<br>(110/110cm) | 4                  |                    | 4             |               |               |                   |                    |            |                     |             |
|  | 3.61'/5.58'<br>(110/170cm) | 4                  |                    | 2             | 2             |               |                   |                    |            |                     |             |
|  | 5.58'/5.58'<br>(170/170cm) | 4                  |                    |               | 4             |               |                   |                    |            |                     |             |
|  | 5.58'/7.22'<br>(170/220cm) | 4                  |                    |               | 2             | 2             |                   |                    |            |                     |             |
|  | 7.22'/7.22'<br>(220/220cm) | 4                  |                    |               |               | 4             |                   |                    |            |                     |             |
| 9.84' - 14.76'<br>(3.00 - 4.50m)<br>1 x MEP 450                      | 3.61'/3.61'<br>(110/110cm) |                    | 4                  | 4             |               |               |                   |                    |            |                     |             |
|  | 3.61'/5.58'<br>(110/170cm) |                    | 4                  | 2             | 2             |               |                   |                    |            |                     |             |
|  | 5.58'/5.58'<br>(170/170cm) |                    | 4                  |               | 4             |               |                   |                    |            |                     |             |
|  | 5.58'/7.22'<br>(170/220cm) |                    | 4                  |               | 2             | 2             |                   |                    |            |                     |             |
|  | 7.22'/7.22'<br>(220/220cm) |                    | 4                  |               |               | 4             |                   |                    |            |                     |             |
| 12.14' - 19.68'<br>(3.70 - 6.00m)<br>2 x MEP 300                     | 3.61'/3.61'<br>(110/110cm) | 8                  |                    | 12            |               |               |                   | 4                  | 8          |                     |             |
|  | 3.61'/5.58'<br>(110/170cm) | 8                  |                    | 6             | 6             |               |                   | 4                  | 8          |                     |             |
|  | 5.58'/5.58'<br>(170/170cm) | 8                  |                    |               | 12            |               |                   | 4                  | 8          |                     |             |
|  | 5.58'/7.22'<br>(170/220cm) | 8                  |                    |               | 6             | 6             |                   | 4                  | 8          |                     |             |
|  | 7.22'/7.22'<br>(220/220cm) | 8                  |                    |               |               | 12            |                   | 4                  | 8          |                     |             |
| 15.91' - 24.61'<br>(4.85 - 7.50m)<br>MEP 300 + 450                   | 3.61'/3.61'<br>(110/110cm) | 4                  | 4                  | 12            |               |               |                   | 4                  | 8          |                     |             |
|  | 3.61'/5.58'<br>(110/170cm) | 4                  | 4                  | 6             | 6             |               |                   | 4                  | 8          |                     |             |
|  | 5.58'/5.58'<br>(170/170cm) | 4                  | 4                  |               | 12            |               |                   | 4                  | 8          |                     |             |
|  | 5.58'/7.22'<br>(170/220cm) | 4                  | 4                  |               | 6             | 6             |                   | 4                  | 8          |                     |             |
|  | 7.22'/7.22'<br>(220/220cm) | 4                  | 4                  |               |               | 12            |                   | 4                  | 8          |                     |             |
| 19.68' - 29.53'<br>(6.00 - 9.00m)<br>2 x MEP 450                     | 3.61'/3.61'<br>(110/110cm) |                    | 8                  | 12            |               |               |                   | 4                  | 8          |                     |             |
|  | 3.61'/5.58'<br>(110/170cm) |                    | 8                  | 6             | 6             |               |                   | 4                  | 8          |                     |             |
|  | 5.58'/5.58'<br>(170/170cm) |                    | 8                  |               | 12            |               |                   | 4                  | 8          |                     |             |
|  | 5.58'/7.22'<br>(170/220cm) |                    | 8                  |               | 6             | 6             |                   | 4                  | 8          |                     |             |
|  | 7.22'/7.22'<br>(220/220cm) |                    | 8                  |               |               | 12            |                   | 4                  | 8          |                     |             |

| Description                 | Ref.-No.         |
|-----------------------------|------------------|
| <b>Post shores with SAS</b> |                  |
| MEP 450.....                | <b>29-907-70</b> |
| MEP 300.....                | <b>29-907-65</b> |
| <b>MEP frames</b>           |                  |
| 330 .....                   | <b>29-909-30</b> |
| 220 .....                   | <b>29-909-25</b> |
| 170 .....                   | <b>29-909-20</b> |
| 110 .....                   | <b>29-909-15</b> |
| 55 .....                    | <b>29-909-10</b> |
| <b>MEP extensions</b>       |                  |
| 360 .....                   | <b>29-907-95</b> |
| 120 .....                   | <b>29-907-90</b> |
| 80 .....                    | <b>29-907-85</b> |
| MEP plug connector .....    | <b>29-909-85</b> |
| Pin 14/135 .....            | <b>29-909-90</b> |
| Pin 14/90 .....             | <b>29-909-94</b> |
| MEP spindle .....           | <b>29-909-70</b> |

## Transport of Frames

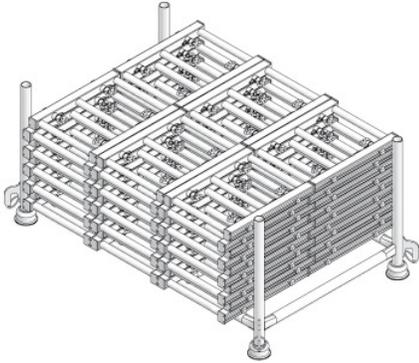


Fig. 35.1

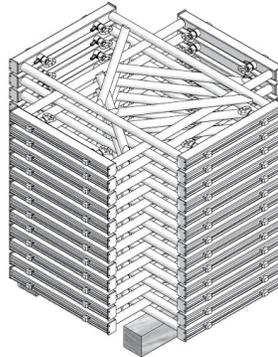


Fig. 35.2

The 55 and 330 frames should be transported in MEVA stacking racks. One rack takes 60 MEP 55 frames and 20 MEP 330 frames.

### Weights

Stacking rack (60 lbs) plus 60 MEP 55 frames: 908 lbs (Fig. 35.1)  
Stacking rack (60 lbs) plus 20 MEP 330 frames: 754 lbs (Fig. 35.2)

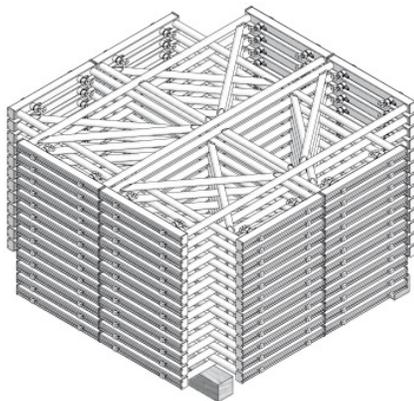


Fig. 35.3

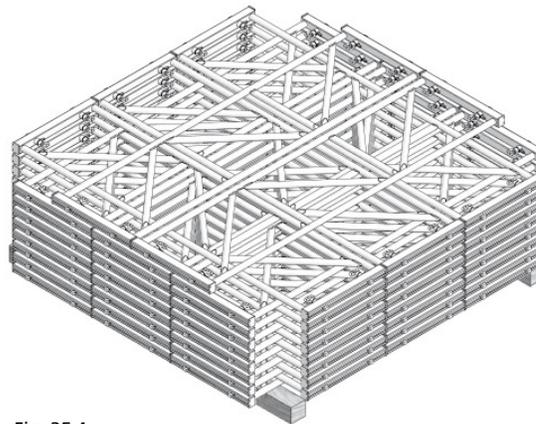


Fig. 35.4

MEVA recommends transporting the frame sizes 110, 170 and 220 in bundles. 2 or 3 bundles or racks can be stacked, depending on the kind of truck. By loading or unloading bundles, make sure to use square timbers underneath.

### Weights

One bundle with 25 (recommended) MEP 110 frames: 430 lbs (Fig. 35.2).  
One bundle with 50 (recommended) MEP 170 frames: 1,092 lbs (Fig. 35.3).  
One bundle with 50 (recommended) MEP 220 frames: 1,312 lbs (Fig. 35.4).

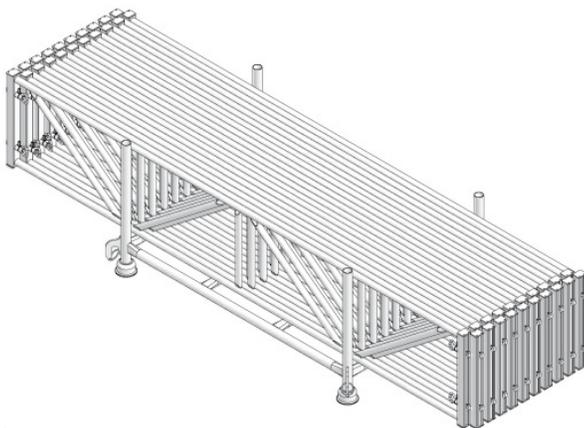


Fig. 35.5

## Transport of Post Shores

To transport MEP post shores use MEVA stacking racks. One rack takes 30 MEP 300 post shores or 30 MEP 450 post shores.

### Weights

Stacking rack (60 lbs) plus 30 MEP 300 post shores: 1,358 lbs (Fig. 36.1).

Stacking rack (60 lbs) plus 30 MEP 450 post shores: 1,880 lbs (Fig. 36.3).

Depending on the kind of truck being used, 2 or 3 racks can be stacked (Fig. 36.2). Because of safety reasons racks must be placed close to each other during transportation to avoid sliding.

Storage boxes (Fig. 36.4) are used to transport accessories. The maximum capacity of one box is 4,410 lbs. 2 or 3 boxes can be stacked depending on size and kind of truck being used (Fig. 36.5).

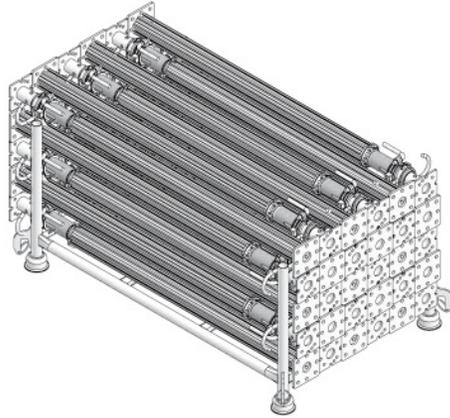


Fig. 36.1

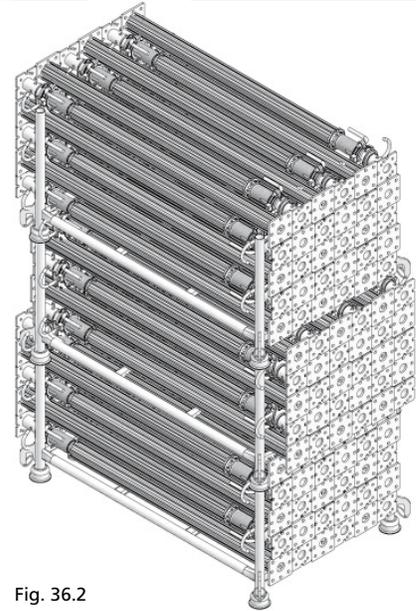


Fig. 36.2

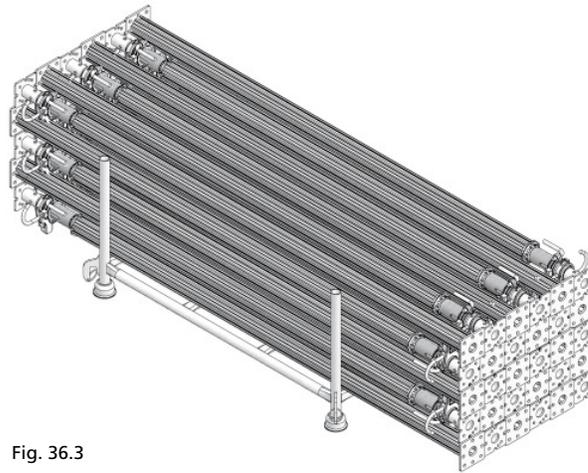


Fig. 36.3

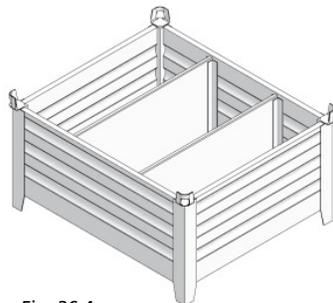


Fig. 36.4

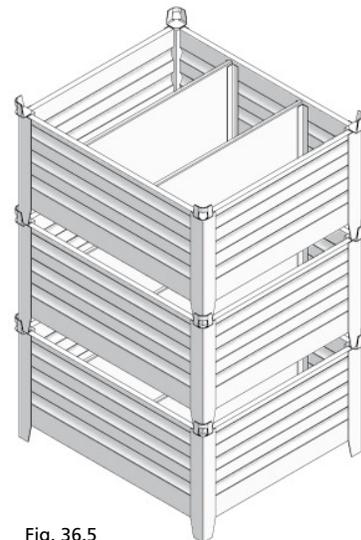


Fig. 36.5



### Rentals

We offer our customers the option of renting supplementary material during peak times. We also give prospective customers the chance to test MEVA formwork so they can see its benefits for themselves in actual use.

### RentalPlus

Since MEVA started the flat rate for cleaning and repair of rented formwork systems in early 2000 more and more contractors experience the outstanding advantages. Ask our representatives about the details!

### Formwork drawings

Of course, all offices in our technical department have CAD facilities. You get expert, clearly represented plans and work cycle drawings.

### MBS - MEVA Basic Support

MBS is an addition to AutoCAD, developed by MEVA Formwork Systems in 2000. MBS is based on standard programs (AutoCAD and Excel) and can be used on any PC that has these two programs installed. It includes pull down menus for AutoCAD and applications to ease forming. It also includes the possibility to create take-offs

### Special solutions

We can help with special parts, custom designed for your project, as a supplement to our formwork systems.

### Static calculations

Generally, this is only necessary for applications like single-sided formwork where the anchor parts are embedded in the foundation or the base slab. If requested, we can perform static calculations for such applications at an additional charge.

Notes

A large grid of small squares, intended for taking notes. The grid is composed of 20 columns and 30 rows of squares.