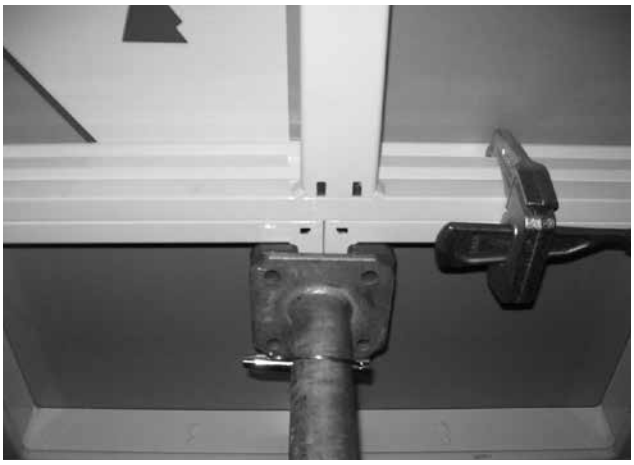
AluFix

Technical Instruction Manual

meva



Product features

The AluFix frame formwork system can be used for both wall and slab formwork. This Technical Instruction Manual describes the installation and use of AluFix as slab formwork. If AluFix is to be used as wall formwork, a separate Technical Instruction Manual is available and must be observed.

AluFix is a versatile and flexible modular formwork system for all applications in building construction and civil engineering. It is used in residential housing construction, renovation projects, civil engineering as well as in all cases where a crane is not available or out of reach. Single panels can be moved by hand.

The modular wall formwork system AluFix possess an aluminium profile with a high-quality cured powder coating. The closed profiles are easy to clean and torsionally rigid. This increases the service life and reduces the cleaning effort.

Using AluFix as slab formwork

AluFix can be used as slab formwork in conjunction with MEVA props and the AluFix prop head. Depending on the panel size and the type of support, slabs with a thickness up to 46 cm can be formed (refer to the load data on pages AF-D-9 to -12).

Abbreviations, figures and tables, etc.

The abbreviation AF-D is used for AluFix Slab. DIN means Deutsche Industrie-Norm (German Industrial Standard). E DIN (E = Entwurf / draft) means that the DIN is in draft status and not yet approved. Any further abbreviations are explained where they are used for the first time.

TÜV means Technischer Überwachungsverein. This is the independent German organisation that tests the safety of technical installations, machinery and motor vehicles. If a product passes the test, it is permitted to carry the GS seal. GS stands for Geprüfte Sicherheit (approved safety).

Measurements: This manual uses the metric system, i.e. m (for metre), cm (for centimetre) and mm (for millimetre).

The page numbers of this manual start with AF-D and the figures and tables are numbered per page. Depending on its product abbreviation, a cross reference in the text refers to a page, table or figure in this or in another manual. This is indicated by the product code.

Please note

This Technical Instruction Manual contains information, instructions and tips that describe how to use the MEVA equipment 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. They will help you without delay.

When using our products, local health and safety regulations must be observed. Please observe the assembly instructions that your local contractor or employer has created for the site on which the MEVA equipment is used. Such instructions are intended to minimise site-specific risks and must contain the following details:

- The order in which all working steps including assembly and disassembly must be carried out
- The weight of the panels and other system parts
- The type and number of ties and braces as well as the distance between them
- The location, number and dimensions of working scaffolds including the working area and fall protection equipment required
- Attachment points for panel transport by crane. With regard to panel transport, please observe this manual. Any deviation will require structural verification.

Important: Generally, only well-maintained material may be used. Damaged parts must be replaced. Use only original MEVA spare parts for replacement.

Attention: Never wax or oil assembly locks!

Contents

AluFix as slab formwork

When the AluFix frame formwork is used to form slabs, the self-supporting AF panels are only supported using props and AF prop heads at the point of intersection of four AF panels or at the joint of two AF panels at the slab edge (Figures 4.1 and 4.2).

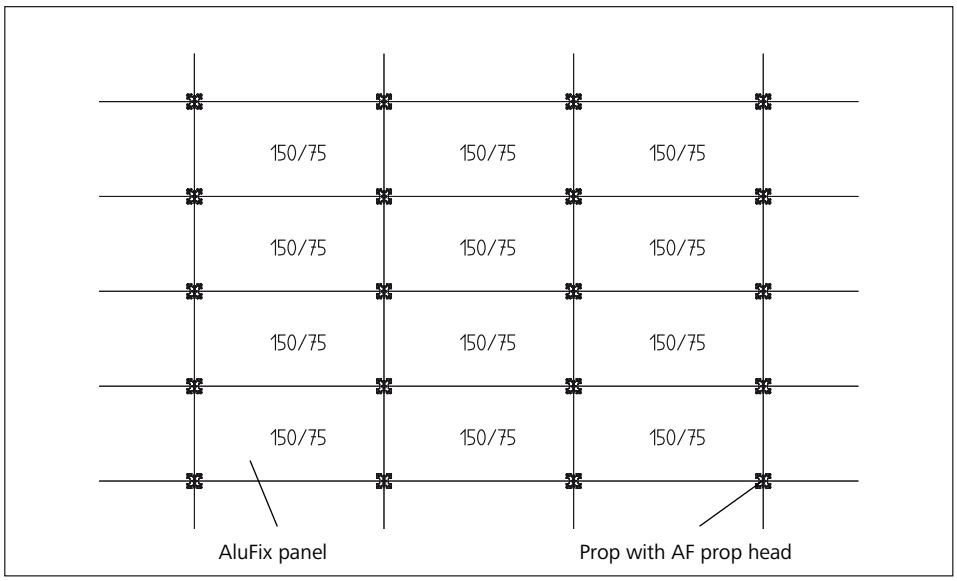


Fig. 4.1

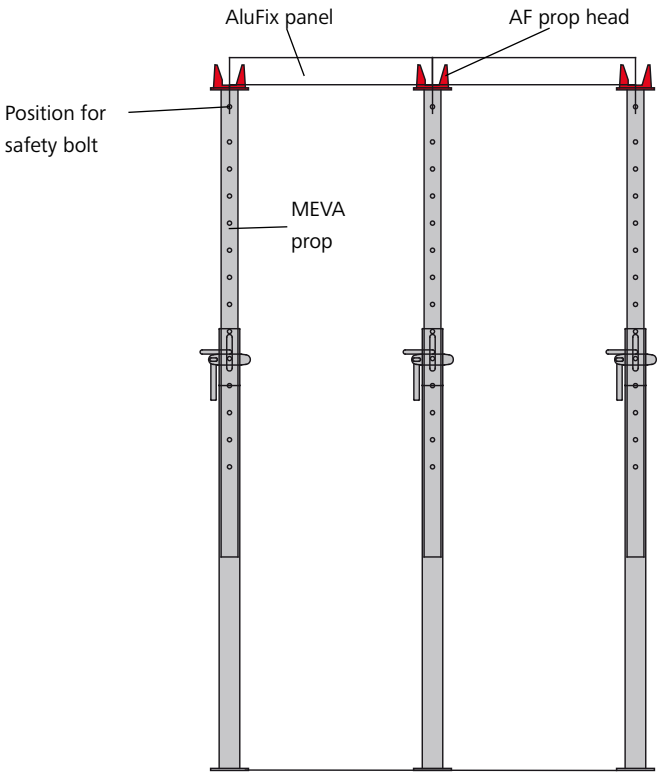


Fig. 4.2

The AluFix panel

Fig. 5.1
The AluFix panel.

Fig. 5.2
The aluminium frames are made of three-chamber profiles with welded-in mitred joints. The profiles are equipped with a double groove and edge protection.

Fig. 5.3
Panel connection using the EA assembly lock.

Fig. 5.4
Cross stiffeners made of closed, robust and easy-to-handle aluminium profile.

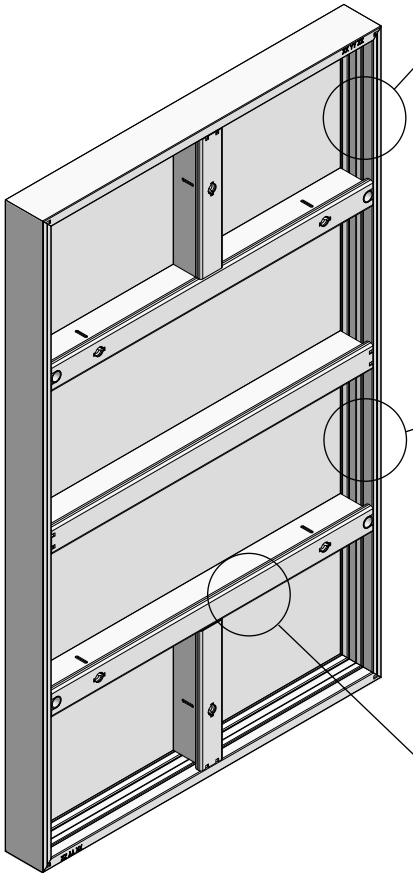


Fig. 5.1

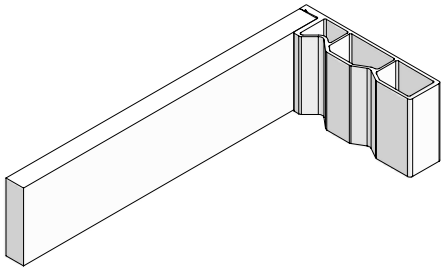


Fig. 5.2

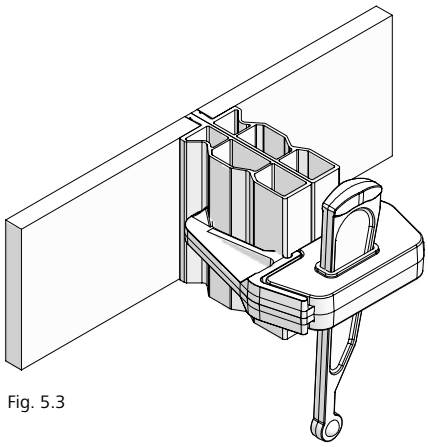


Fig. 5.3

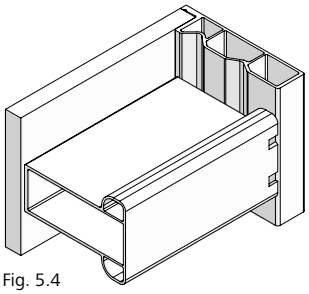


Fig. 5.4

The AF prop head

The AF prop head (Fig. 6.1) is a painted casting. It supports AluFix panels:

→ at the point of intersection of four AF panels

or

→ at the joint of two AF panels at the slab edge.

It can be installed on all MEVA props and secured with pin 14/90e (Fig. 6.2). The AF prop head is only secured with pin 14/135 on the outer tube of the MEP prop (Fig. 6.3).

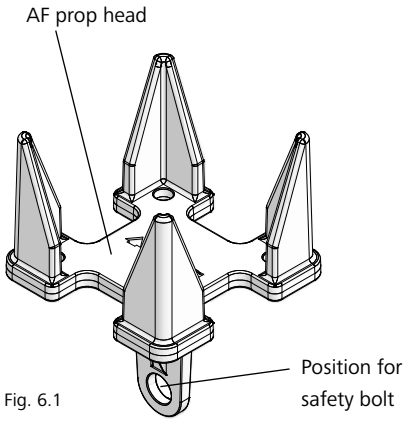


Fig. 6.1

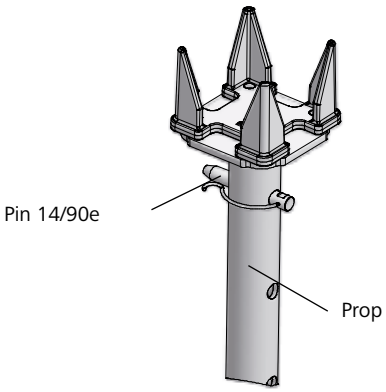


Fig. 6.2

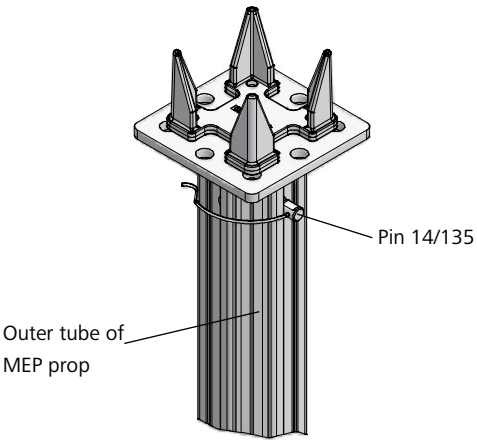


Fig. 6.3

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**

Overview of props

EuMax 20 prop concept as a single prop

With a permissible load capacity of 20 kN at every extension length and irrespective of the installation position, it complies with EN 1065 Class D. The inner and outer tubes are made of steel (Fig. 7.1).

→ EuMax 20/300
Range of adjustment: 1.77 to 3.00 m.
→ EuMax 20/400
Range of adjustment: 2.32 to 4.00 m.
→ EuMax 20/550
Range of adjustment: 3.02 to 5.50 m.

EuMax 30 prop concept as a single prop

With a permissible load capacity of 30 kN at every extension length and irrespective of the installation position, it complies with EN 1065 Class E. The inner and outer tubes are made of steel (Fig. 7.2).

→ EuMax 30/150
Range of adjustment: 0.98 to 1.50 m.
→ EuMax 30/250
Range of adjustment: 1.52 to 2.50 m.
→ EuMax 30/350
Range of adjustment: 2.02 to 3.50 m.
→ EuMax 30/450
Range of adjustment: 2.52 to 4.50 m.

Refer to Table Seite 8.1 for the exact load data of the EuMax props as a function of the extension length.

Description	Ref. No.
EuMax 30/150	**29-907-46**
EuMax 30/250	**29-907-51**
EuMax 30/350	**29-907-61**
EuMax 30/450	**29-907-62**
EuMax 20/300	**29-907-36**
EuMax 20/400	**29-907-41**
EuMax 20/550	**29-907-45**
MEP 300 with SAS	**29-907-65**
MEP 450 with SAS	**29-907-70**

Prop concept
MEP prop as a single prop

The MEP 450 prop has a load capacity of 20 kN irrespective of the installation position. Lower inner tube = 30 kN, corresponding to Class E of EN 1065 approval number Z-8.312-881. The inner tube is made of steel and the outer tube of aluminium (Fig. 7.3).

The MEP 300 prop has a load capacity of 40 kN.

→ MEP 300 with SAS
Range of adjustment: 1.85 to 3.00 m.
→ MEP 450 with SAS
Range of adjustment: 3.00 to 4.50 m.

MEP props in shoring towers

The MEP shoring tower has a load capacity of 40 kN/leg when reinforced with frames.

For slab heights above 4.90 m the MEP props are only supplemented by MEP extensions and frames.

The standard SAS quick-lowering system (Fig. 7.4) enables the load on the MEP prop to be released with a single hammer blow. After stripping, it returns automatically to its original position.

Please observe the Technical Instruction Manual of the MEP shoring tower.

Fig. 7.1 EuMax 20

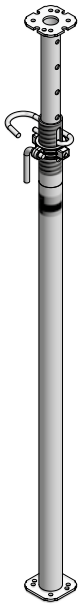


Fig. 7.2 EuMax 30

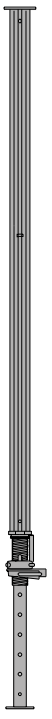


Fig. 7.3 MEP prop

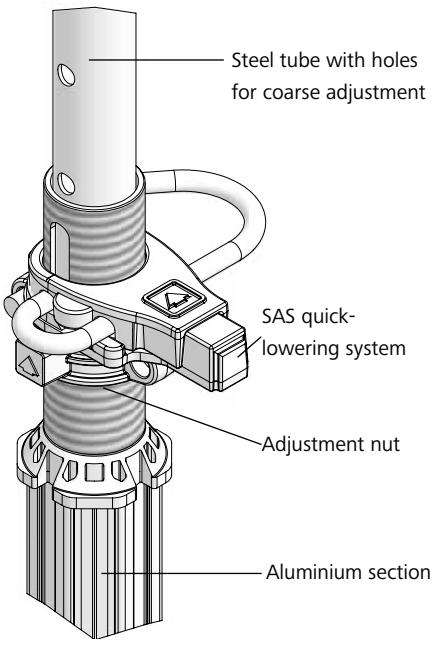


Fig. 7.4 SAS quick-lowering system

Load data

Permissible prop load (kN)												
Extension length (cm)	EuMax 20/300		EuMax 20/400		EuMax 20/550		EuMax 30/250		EuMax 30/350		EuMax 30/450	
	L = 177 – 300 cm		L = 232 – 400 cm		L = 302 – 550 cm		L = 152 – 250 cm		L = 202 – 350 cm		L = 252 – 450 cm	
	Outer tube at bottom	Inner tube at bottom	Outer tube at bottom	Inner tube at bottom	Outer tube at bottom	Inner tube at bottom	Outer tube at bottom	Inner tube at bottom	Outer tube at bottom	Inner tube at bottom	Outer tube at bottom	Inner tube at bottom
160							47.0	47.0				
170							47.0	47.0				
180	39.8	39.8					47.0	47.0				
190	39.8	39.8					47.0	47.0				
200	39.8	39.8					47.0	47.0				
210	36.8	39.4					47.0	47.0	47.0	47.0		
220	34.2	38.5					47.0	47.0	47.0	47.0		
230	32.2	37.3					47.0	47.0	47.0	47.0		
240	30.5	35.8	37.0	37.0			47.0	47.0	47.0	47.0		
250	29.3	34.2	37.0	37.0			47.0	47.0	47.0	47.0		
260	27.6	32.7	37.0	37.0					47.0	47.0	41.3	41.3
270	25.6	30.3	37.0	37.0					47.0	47.0	41.3	41.3
280	23.8	27.9	37.0	37.0					47.0	47.0	41.3	41.3
290	22.1	25.8	37.0	37.0					45.3	47.0	41.3	41.3
300	20.6	23.6	35.6	37.0					44.0	45.3	41.3	41.3
310			34.2	37.0	41.3	41.3			41.8	43.8	41.3	41.3
320			33.0	37.0	41.3	41.3			38.8	42.1	41.3	41.3
330			32.0	37.0	41.3	41.3			36.2	39.2	41.3	41.3
340			30.3	37.0	41.3	41.3			33.6	36.2	41.3	41.3
350			28.5	36.3	41.3	41.3			31.2	33.4	41.3	41.3
360			26.8	33.6	41.3	41.3					41.3	41.3
370			25.3	31.1	41.3	41.3					41.3	41.3
380			23.8	28.8	41.3	41.3					41.3	41.3
390			22.4	26.8	41.3	41.3					41.3	41.3
400			21.2	25.0	41.3	41.3					41.3	41.3
410					41.3	41.3					40.1	41.3
420					41.3	41.3					37.8	41.3
430					40.2	41.3					35.5	39.3
440					38.0	41.3					33.5	36.7
450					36.0	41.3					31.5	34.3
460					34.1	39.5						
470					32.4	37.2						
480					30.7	35.0						
490					29.2	33.0						
500					27.8	31.3						
510					26.5	29.6						
520					25.2	28.1						
530					24.1	26.7						
540					22.9	25.3						
550					21.8	23.9						

Table 8.1

Loading assumptions

The loading on slab formwork comprises permanent and temporary loads. It is clearly defined in DIN EN 12812 “Additional loads for the use of in-situ concrete”.

Permanent loads

→ Dead loads of the fresh concrete as per plan including reinforcement
(g1 = 25 kN/m³ x d)

→ Dead load of the formwork and scaffolding components
(g2 = 0.30 kN/m²).

Temporary loads

→ Equivalent loads for work performed in the concrete surface area are to be treated as vertical loads.

→ An equivalent load of at least 0.75 kN/m² for ongoing work must be taken into account. A higher load may be appropriate depending on the application.

→ The additional load for the use of in-situ concrete is taken as 10% of the dead load of fresh concrete on a surface area of 3 x 3 m. However, it must not be less than 0.75 kN/m² or greater than 1.75 kN/m².

→ A horizontal equivalent load for ongoing tasks is to be treated as 1/100 of the vertical load at the point of application of the vertical load. The horizontal equivalent load must be transferred into the substructure or the ground.

DIN 18202 “flatness tolerances”, Table 3

Column	1	2	3	4	5	6
		Distances as limiting values in mm for distances between measuring points in m				
Line	Reference	0.1	1*	4*	10*	15*
5	Unexposed walls and undersides of slabs	5	10	15	25	30
6	Exposed walls and undersides of slabs, e.g. plastered walls, panelling, suspended ceilings	3	5	10	20	25
7	Like line 6, but with stricter requirements	2	3	8	15	20
* Intermediate values can be found in Fig. 10.2. Round up values found to full millimetres.						

Table 9.1

Flatness tolerances of walls and undersides of slabs (lines according to Table 3)

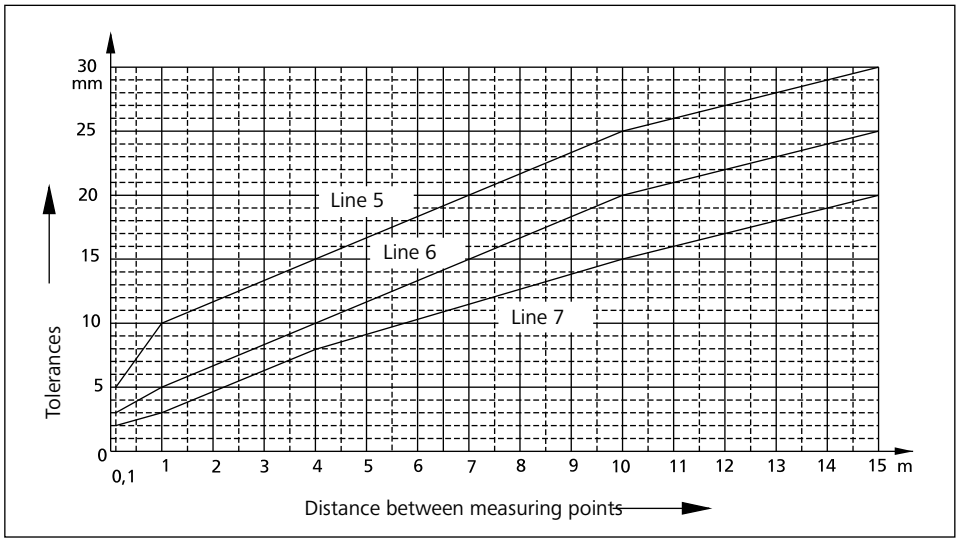


Fig. 9.2

The permissible deflection of formwork parts is defined in DIN 18202 (flatness tolerances),Table 3, lines 5 to 7. Here, the maximum permissible deflection is defined in relation to the distance between the measuring points.

The measuring lath is placed on the highest protruding points of the surface and the deflection is measured at the deepest point. The distance between measuring points corresponds to the distance between the highest protruding points.

Permissible loading

The permissible slab thickness using AluFix panels 150/90 is shown in Table 10.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 150/90 (Fig. 10.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)
16	5.80	7.84	2.9
18	6.30	8.52	3.3
20	6.80	9.20	3.6
22	7.30	9.84	4.0
24	7.80	10.52	4.3
25	8.05	10.88	4.5
26	8.30	11.20	4.6
28	8.80	11.88	5.0
30	9.30	12.56	5.3
32	9.85	13.28	5.7

Table 10.1

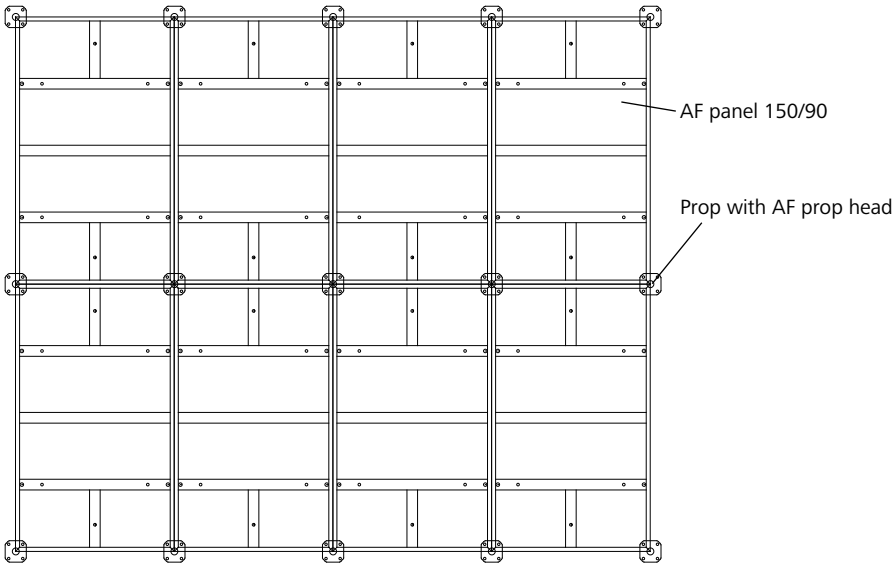


Fig. 10.2

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
EA assembly lock	**29-205-50**
AluFix AL panel 150/90	**22-135-10**

Permissible loading

The permissible slab thickness using AluFix panels 250/90 supported in the middle by formwork girder H20 is shown in Table 11.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 250/90 supported in the middle by formwork girder H20 as a single-span beam (Fig. 11.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)	Bending moment H20 (kNm)
16	5.80	15.47	1.9	3.2
18	6.30	16.81	2.2	3.5
20	6.80	18.14	2.4	3.8
22	7.30	19.48	2.6	4.1
24	7.80	20.82	2.9	4.3
25	8.05	21.49	3.0	4.5
26	8.30	22.16	3.1	4.6
28	8.80	23.49	3.4	4.9

Table 11.1

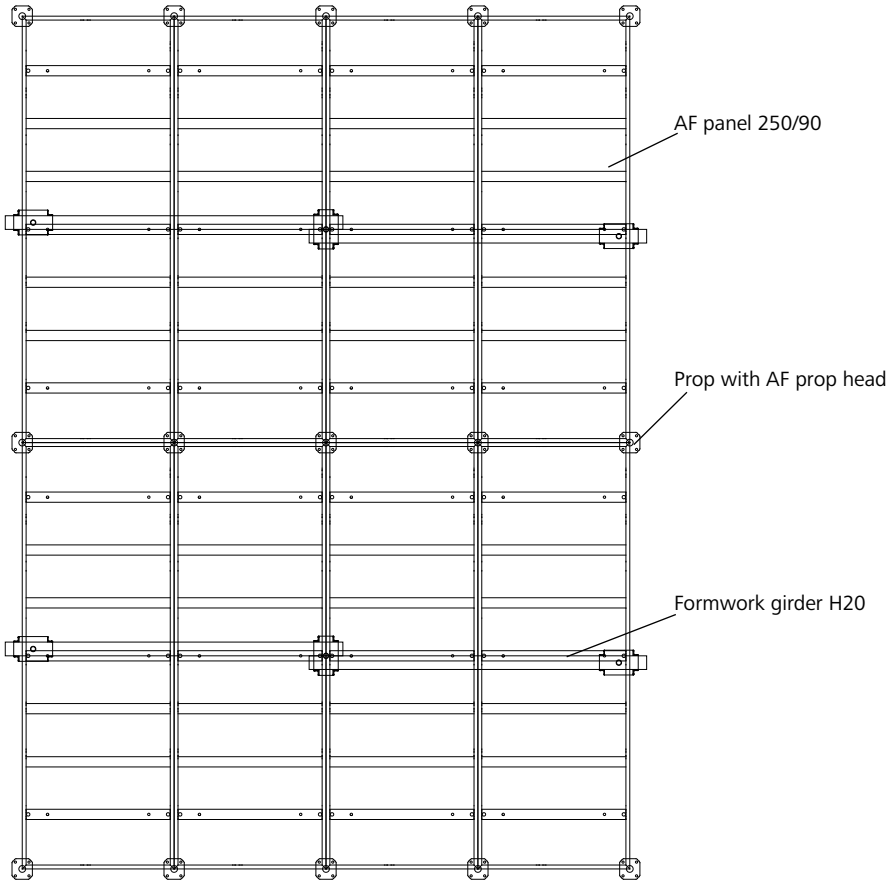


Fig. 11.2 Formwork girder H20 as a single-span beam

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
AluFix AL panel 250/90	**22-138-10**
Formwork girder	
H20/245	**29-206-02**
H20/250	**29-206-00**
H20/290	**29-206-05**
H20/330	**29-206-10**
H20/390	**29-206-20**
H20/450	**29-206-30**
H20/490	**29-206-45**
H20/590	**29-206-48**

Permissible loading

The permissible slab thickness using AluFix panels 250/90 supported in the middle by MEVA alum-beam 20 is shown in Table 12.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 250/90 supported in the middle by MEVA alu-beam 20 as a single-span beam (Fig. 12.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)	Bending moment MEVA alu-beam (kNm)
24	7.80	21.37	1.6	4.7
25	8.05	22.05	1.6	4.8
26	8.30	22.74	1.7	5.0
28	8.80	24.11	1.8	5.3
30	9.30	25.48	1.9	5.6
32	9.85	26.99	2.1	5.9
34	10.40	28.50	2.2	6.3
35	10.68	29.27	2.3	6.4
36	10.95	30.01	2.3	6.6
38	11.50	31.52	2.5	6.9
40	12.05	33.03	2.6	7.3
42	12.60	34.54	2.8	7.6
44	13.15	36.00	2.7	7.9
45	13.43	36.77	2.8	8.1
46	13.70	37.51	2.8	8.2
48	14.25	39.01	3.0	8.6

Table 12.1

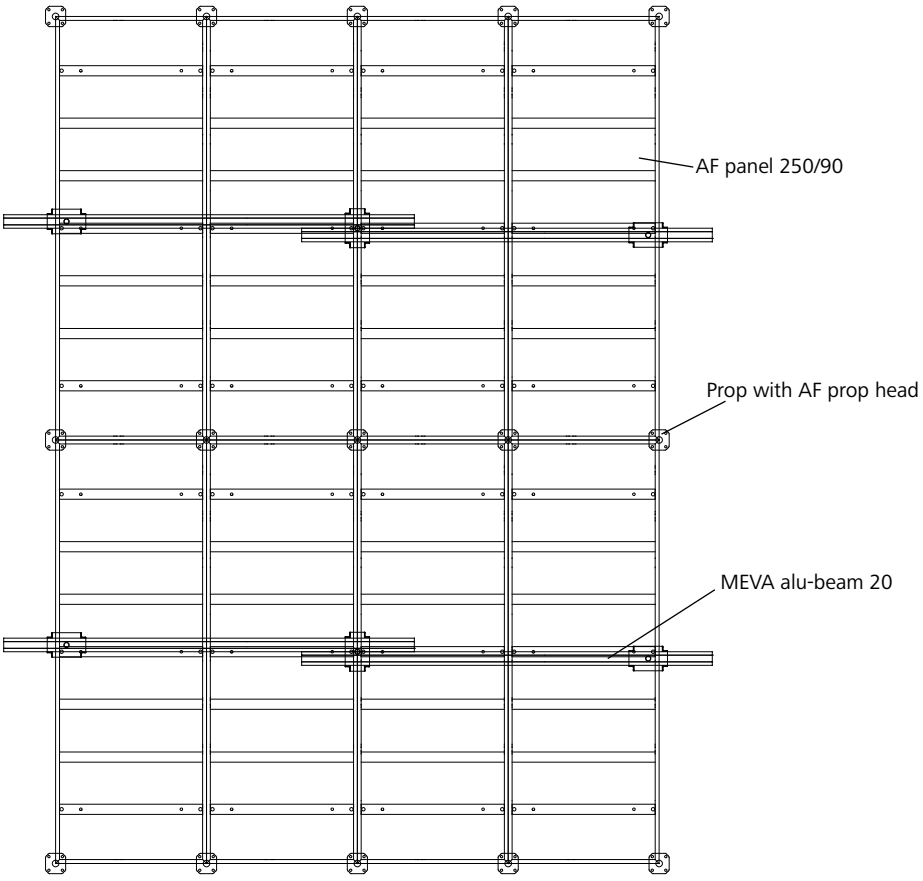


Fig. 12.2 MEVA alu-beam 20 as a single-span beam

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
AluFix AL panel 250/90	**22-138-10**
MEVA alu-beam 20/2450	**29-216-15**
MEVA alu-beam 20/3900	**29-216-45**

Permissible loading

The permissible slab thickness using AluFix panels 250/90 supported in the middle by MEVA alum-beam 20 is shown in Table 13.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 250/90 supported in the middle by MEVA alu-beam 20 as a two-span beam (Fig. 13.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)	Bending moment MEVA alu-beam (kNm)
20	6.80	22.26	1.1	3.1
22	7.30	23.90	1.2	3.4
24	7.80	25.54	1.3	3.6
25	8.05	26.36	1.3	3.7
26	8.30	27.17	1.4	3.8
28	8.80	28.81	1.5	4.1
30	9.30	30.45	1.6	4.3
32	9.85	32.25	1.7	4.5
34	10.40	34.06	1.8	4.8
35	10.68	34.97	1.9	4.9
36	10.95	35.86	1.9	5.1
38	11.50	37.66	2.0	5.3
40	12.05	39.47	2.1	5.6

Table 13.1

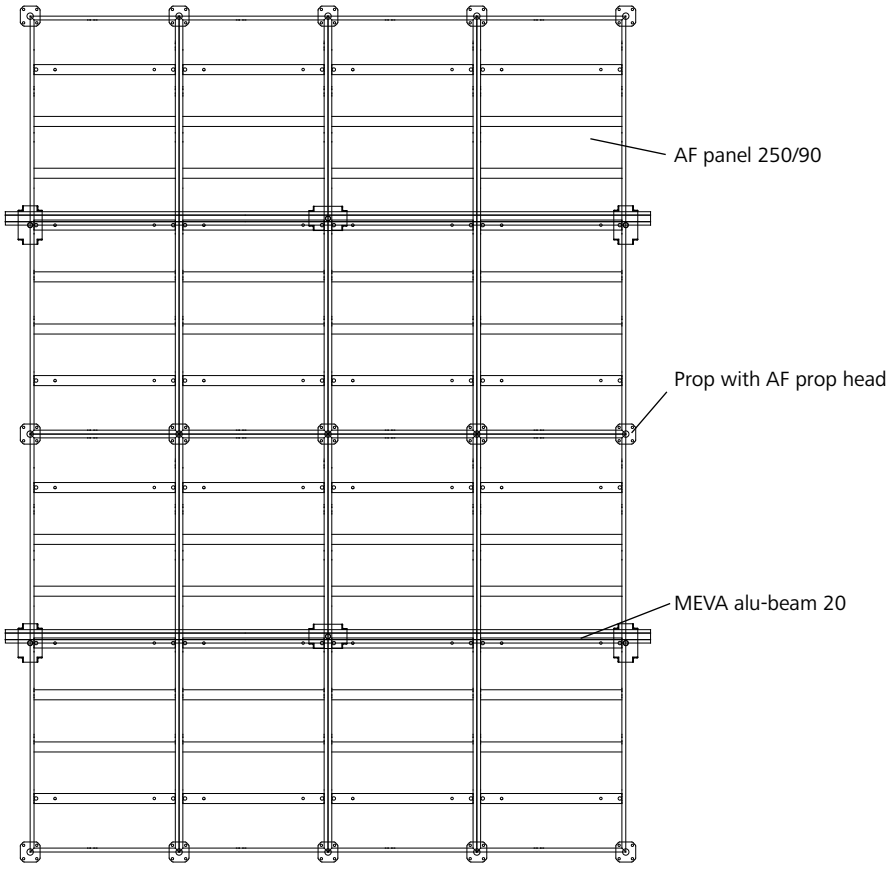


Fig. 13.2 MEVA alu-beam 20 as a two-span beam

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
AluFix AL panel 250/90	**22-138-10**
MEVA alu-beam 20/2450	**29-216-15**
MEVA alu-beam 20/3900	**29-216-45**

Permissible loading

The permissible slab thickness using AluFix panels 270/90 supported in the middle by formwork girder H20 is shown in Table 14.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 270/90 supported in the middle by formwork girder H20 as a single-span beam (Fig. 14.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)	Bending moment H20 (kNm)
16	5.80	16.9	2.1	3.6
18	6.30	18.3	2.3	3.9
20	6.80	19.8	2.6	4.2
22	7.30	21.2	2.8	4.5
24	7.80	22.7	3.1	4.8
25	8.05	23.4	3.2	5.0

Table 14.1

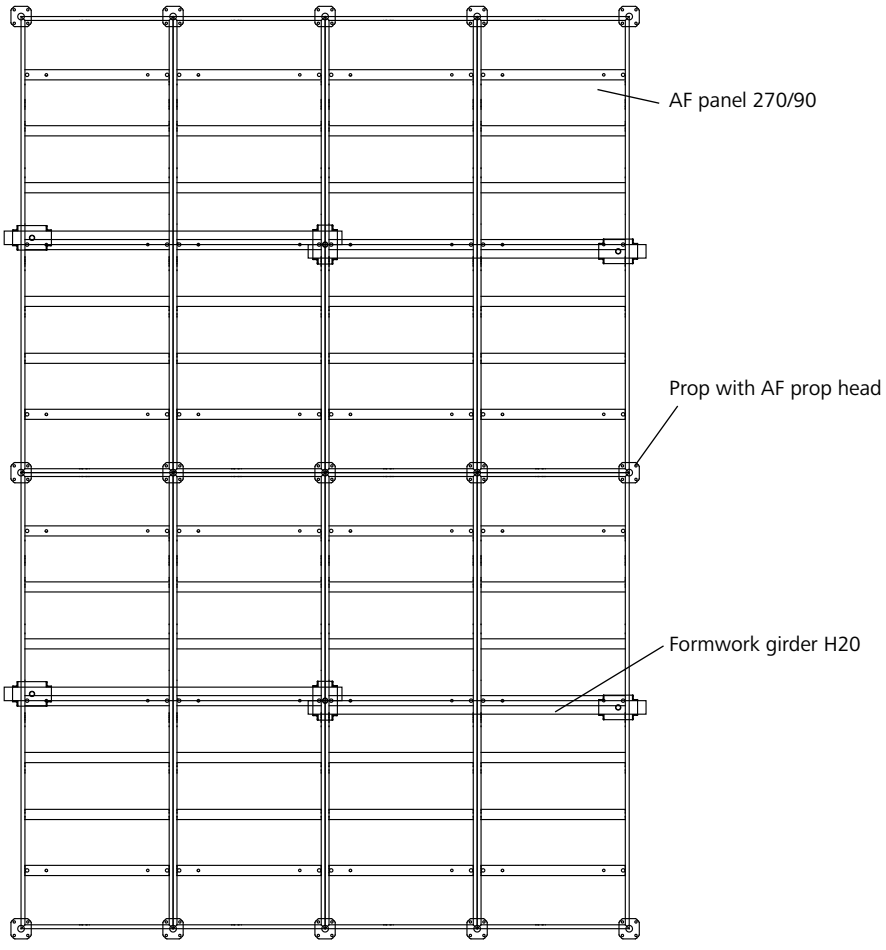


Fig. 14.2 Formwork girder H20 as a single-span beam

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
AluFix AL panel 270/90	**22-137-10**
Formwork girder	
H20/245	**29-206-02**
H20/250	**29-206-00**
H20/290	**29-206-05**
H20/330	**29-206-10**
H20/390	**29-206-20**
H20/450	**29-206-30**
H20/490	**29-206-45**
H20/590	**29-206-48**

Permissible loading

The permissible slab thickness using AluFix panels 270/90 supported in the middle with two formwork girders H20 (double girder) is shown in Table 15.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 270/90 supported in the middle by two formwork girders H20 (double girder) as a two-span beam (Fig. 15.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)	Bending moment 2 x H20 (kNm)
24	7.80	27.6	1.7	3.9
25	8.05	28.5	1.7	4.0
26	8.30	29.3	1.8	4.2
28	8.80	31.1	1.9	4.4
30	9.30	32.9	2.1	4.7
35	10.68	37.7	2.4	5.3
40	12.05	42.7	2.6	6.1

Table 15.1

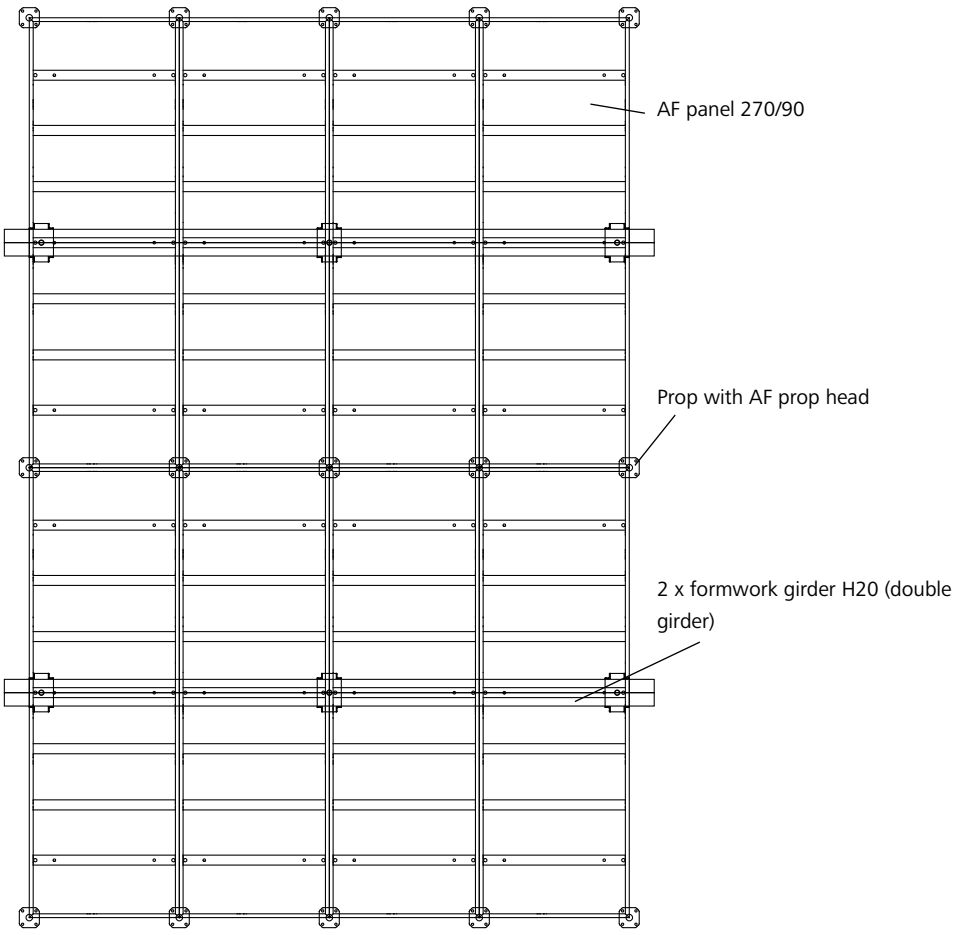


Fig. 15.2 Two formwork girders H20 as a two-span beam

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
AluFix AL panel 270/90	**22-137-10**
Formwork girder	
H20/245	**29-206-02**
H20/250	**29-206-00**
H20/290	**29-206-05**
H20/330	**29-206-10**
H20/390	**29-206-20**
H20/450	**29-206-30**
H20/490	**29-206-45**
H20/590	**29-206-48**

Permissible loading

The permissible slab thickness using AluFix panels 270/90 supported in the middle by MEVA alu-beam 20 is shown in Table 16.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 270/90 supported in the middle by MEVA alu-beam 20 as a single-span beam (Fig. 16.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)	Bending moment MEVA alu-beam (kNm)
24	7.80	23.2	1.8	5.1
25	8.05	23.9	1.9	5.3
26	8.30	24.7	2.0	5.5
28	8.80	26.1	2.1	5.8
30	9.30	27.6	2.3	6.1
35	10.68	31.7	2.6	7.0
40	12.05	35.8	3.0	7.9

Table 16.1

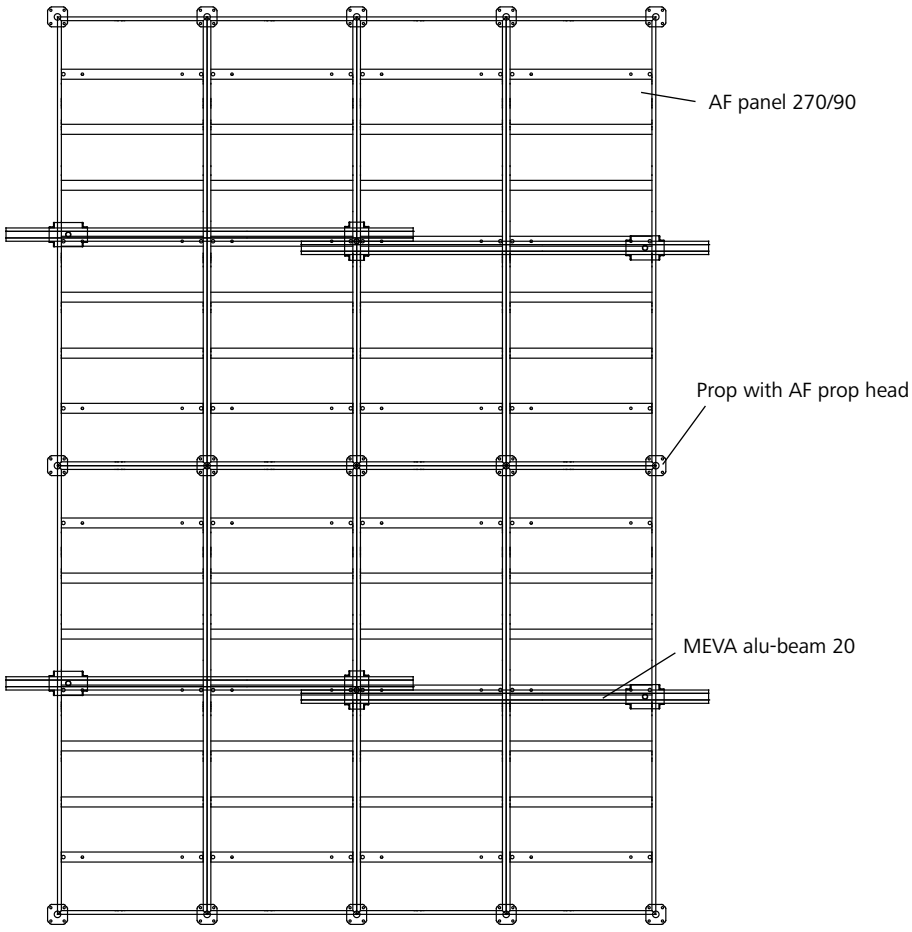


Fig. 16.2 Two MEVA alu-beams 20 as a single-span beam

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
AluFix AL panel 270/90	**22-137-10**
MEVA alu-beam 20/2450	**29-216-15**
MEVA alu-beam 20/3900	**29-216-45**

Permissible loading

The permissible slab thickness using AluFix panels 270/90 supported in the middle by MEVA alu-beam 20 is shown in Table 17.1.

To support the AluFix panels when used as slab formwork, the AF prop head is secured to the prop using pin 14/90e or to the outer tube of the MEP prop using pin 14/135.

No assembly locks are required if the slab is formed as a plate, for example when the slab edges are completely supported by concrete beams or walls.

At a non-supported slab edge the last three panel joints are to be connected in all directions with EA assembly locks. It is always necessary to safeguard against tipping over.

Permissible loading when using AluFix 270/90 supported in the middle by MEVA alu-beam 20 as a two-span beam (Fig. 17.2)

Slab thickness d (cm)	Slab load q (kN/m²)	Max. prop load (kN)	Max. deflection (mm)	Bending moment MEVA alu-beam (kNm)
24	7.80	27.7	1.6	3.9
25	8.05	28.6	1.7	4.1
26	8.30	29.4	1.7	4.2
28	8.80	31.2	1.8	4.4
30	9.30	33.0	2.0	4.7
35	10.68	37.9	2.3	5.4
40	12.05	42.7	2.6	6.1

Table 17.1

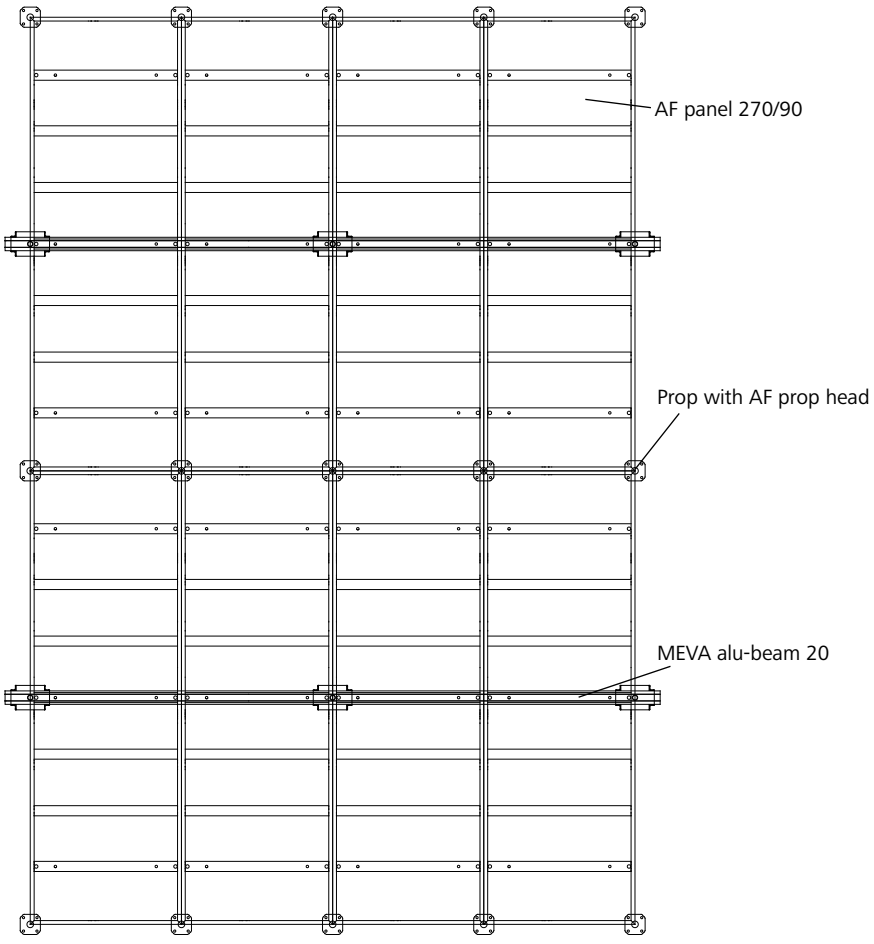


Fig. 17.2 Two MEVA alu-beams 20 as a two-span beam

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
AluFix AL panel 270/90	**22-137-10**
MEVA alu-beam 20/2450	**29-216-15**
MEVA alu-beam 20/3900	**29-216-45**

Start of formwork assembly

When using this method, we recommend starting assembly in the corner which is best suited for trouble-free assembly in both directions. In general, the formwork is erected along the longitudinal axis of the room.

The corner panel can be supported either by a stringer (Fig. 18.1) or directly by a prop without AF prop head (Fig. 18.2).

In both case tripods are to be used at the slab edge to stabilize the props.

Attention

Observe the maximum permissible loading of the EuMax and MEP props (see pages AF-D Seite 7 and Seite 8) when used in conjunction with AluFix panels (see pages AF-D-Seite 10 to -Seite 17).

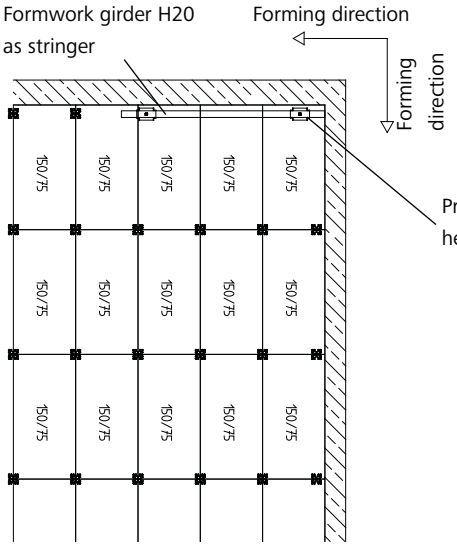


Fig. 18.1

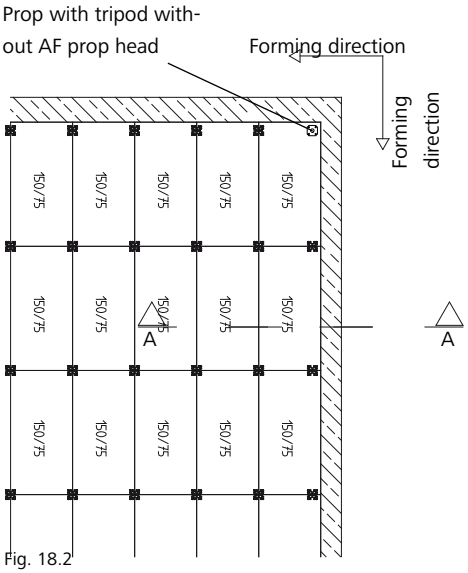


Fig. 18.2

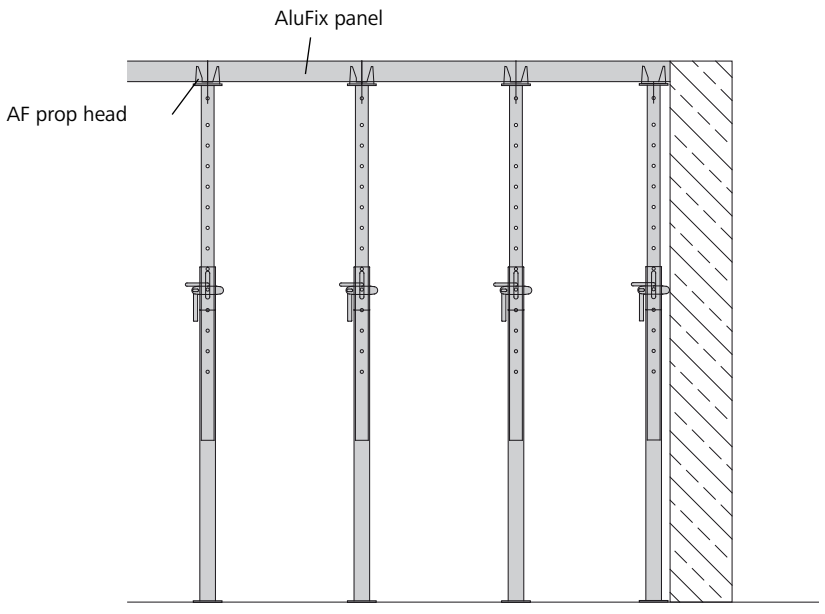


Fig. 18.3 Section A – A

Description	Ref. No.
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Formwork girder	
H20/245	**29-206-02**
H20/250	**29-206-00**
H20/290	**29-206-05**
H20/330	**29-206-10**
H20/390	**29-206-20**
H20/450	**29-206-30**
H20/490	**29-206-45**
H20/590	**29-206-48**

Problem areas

Compensation for concrete columns

Compensations can be integrated into the slab formwork for concrete columns.

Depending on the dimensions of the concrete columns and the panel arrangement, formwork girders H20 and props with forked prop heads (Fig. 19.1) or square timbers and props with forked prop heads (Fig. 19.2) can be used to support the facing.

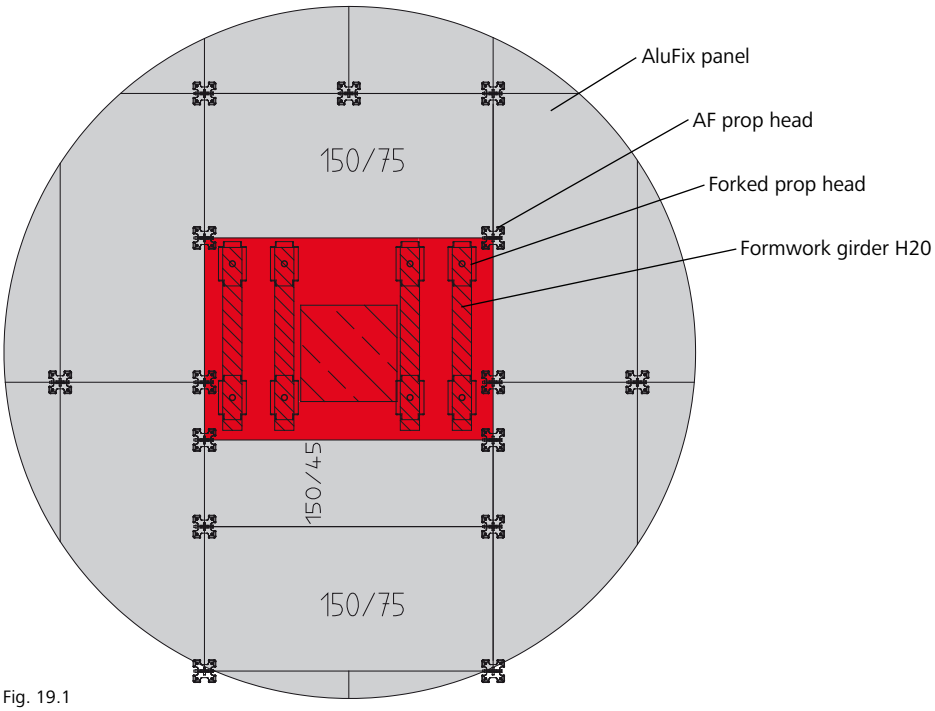


Fig. 19.1

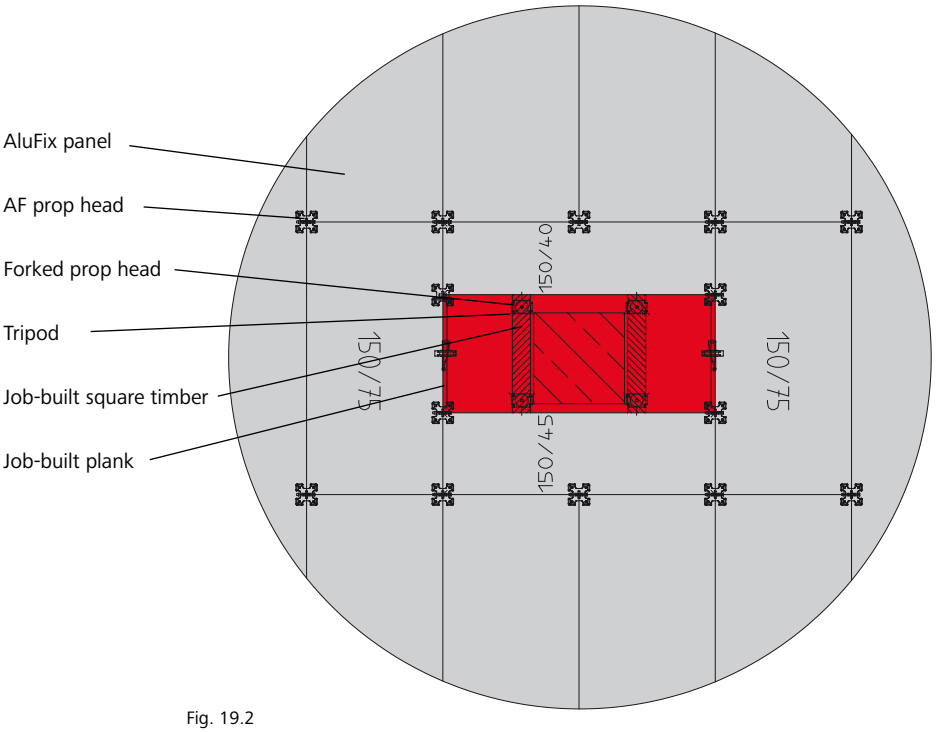


Fig. 19.2

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
Formwork girder	
H20/245	**29-206-02**
H20/250	**29-206-00**
H20/290	**29-206-05**
H20/330	**29-206-10**
H20/390	**29-206-20**
H20/450	**29-206-30**
H20/490	**29-206-45**
H20/590	**29-206-48**

Problem areas

Wall compensation
To compensate for walls, formwork girders H20 and props with forked prop heads (Figures 20.1 and 20.3) can be used to support the facing.

EA assembly locks suffice to attach job-built planks to support the facing (Fig. 20.2).

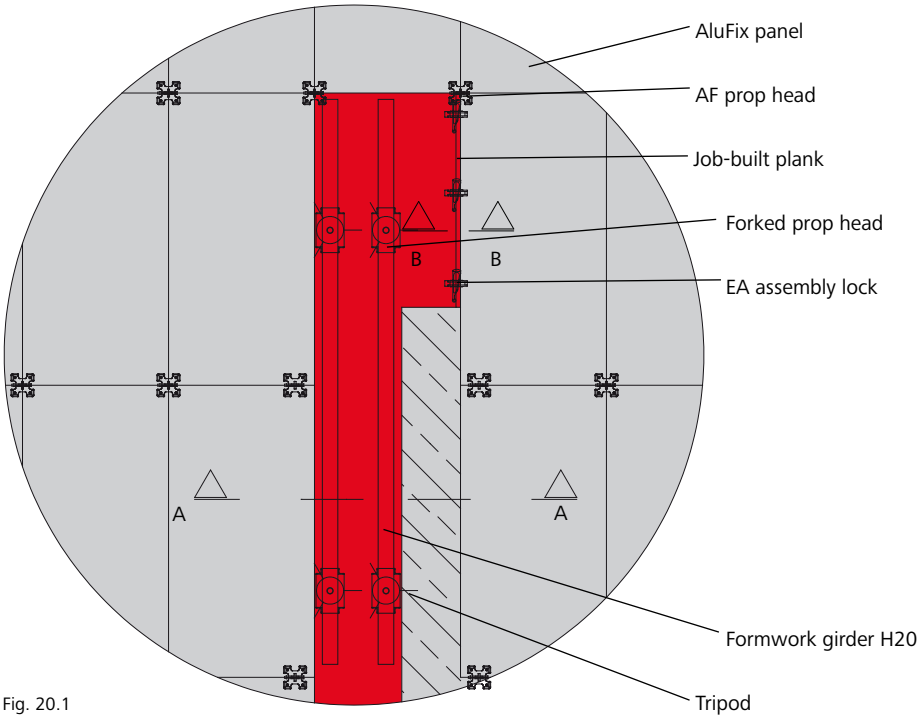


Fig. 20.1

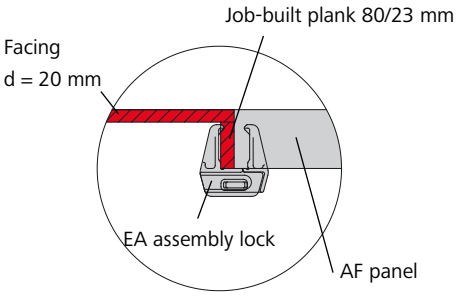


Fig. 20.2 Section B – B

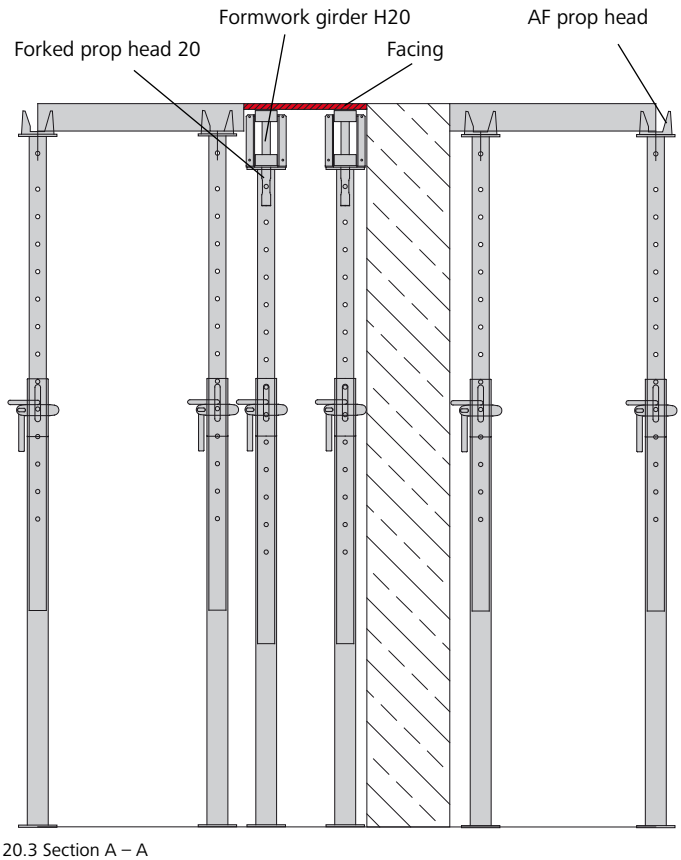


Fig. 20.3 Section A – A

Description	Ref. No.
AF prop head	**29-202-80**
Pin 14/90e	**29-803-55**
Pin 14/135	**29-909-90**
Tripod	**29-905-50**
Forked prop head 20	**29-206-40**
EA assembly lock	**29-205-50**
Formwork girder	
H20/245	**29-206-02**
H20/250	**29-206-00**
H20/290	**29-206-05**
H20/330	**29-206-10**
H20/390	**29-206-20**
H20/450	**29-206-30**
H20/490	**29-206-45**
H20/590	**29-206-48**

Transport instructions

The following must be observed for road transport:
Use one ratchet strap per metre of cargo. This means that at least 14 ratchet straps are required for a fully loaded truck with a trailer length of 13.60 m.

When moving several panels, make sure the panel stack is secured are secured against sliding. MEVA secures the AluFix panels with the safety bolt AS/ST black (Fig. 21.2).

These safety devices should also be used when returning the material from building site.

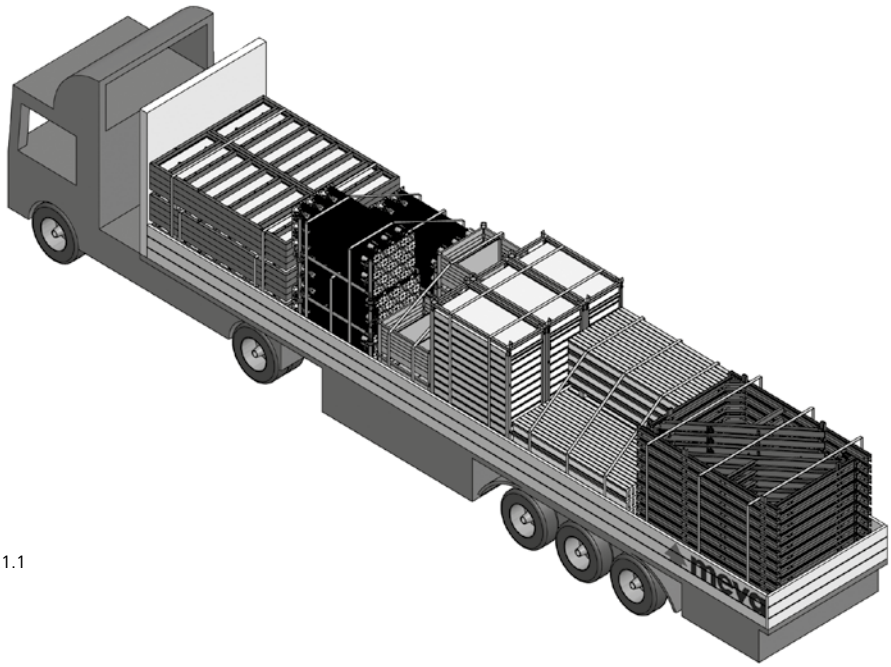


Fig. 21.1

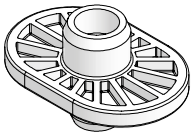


Fig. 21.2

Description	Ref. No.
Safety bolt AS/ST black	40-131-10

Services

Cleaning
The formwork is cleaned professionally using industrial equipment upon return.

Reconditioning
Reconditioning is carried out as follows: The frames are checked and, if necessary, repaired, coated with a high-quality cured powder coating and provided with a new facing. As long as the formwork equipment still has its full load capacity, correct dimensions and is fully functional, reconditioning will always be a more economical solution than purchasing new formwork. Please note that the cleaning and reconditioning service is not available in all countries in which MEVA does business.

Rentals
As we have a comprehensive range of equipment in stock, we offer our customers the option of renting supplementary material at peak times. The MEVA logistics centre guarantees rapid delivery throughout Europe. We also give prospective customers the chance to test MEVA formwork so they can see its benefits for themselves in actual use.

RentalPlus
For a flat-rate fee MEVA's "fully comprehensive insurance" for rental formwork and equipment covers all secondary costs that occur after return (excludes losses and write-offs). For the customer this means: Costing certainty instead of additional charges, an earlier end of the rental period and thus lower rental costs because you save the time required for cleaning and repairs.

Formwork drawings
Our application engineers worldwide work with CAD systems. This ensures that you always receive optimum formwork solutions and practice-oriented formwork and work cycle plans.

Special solutions
We can help with special parts, custom-designed for your project, to supplement our standard formwork systems.

Structural calculations
Generally, this is only necessary for applications such as single-sided formwork where the anchor parts are embedded in the foundation or the base slab. On request, we can perform structural calculations for such applications at an additional charge.

Formwork seminars
To ensure that all our products are used properly and efficiently, we offer formwork seminars. They provide our customers with a good opportunity to keep themselves up to date and to benefit from the know-how of our engineers.